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THE EFFECT OF PRIOR DEFINITIONAL INSTRUCTION
OF TARGETED VOCABULARY IN GERMAN TEXTS
ON VOCABULARY KNOWLEDGE AND READING COMPREHENSION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Reinhard P. Foerg, B.S., M.S.

The Ohio State University
1998

Dissertation Committee:

Professor Gilbert A. Jarvis, Adviser

Professor Charles Hancock

Professor Ayres D'Costa

Approved By

A handwritten signature in dark ink, appearing to read 'Gilbert A. Jarvis', is written over a horizontal line.

Adviser

College of Education

ABSTRACT

There has been a strong tendency in the foreign language education community to encourage learning vocabulary from context and to discourage direct instruction of vocabulary, this despite the fact that the amount of research on vocabulary acquisition, particularly of older learners in a foreign language, is relatively small. Recent research has illuminated potential advantages to more deliberate instruction of vocabulary, as well as increased use of dictionaries. This study examines the combined effect of direct instruction and learning from context on an authentic German text, looking specifically at subsequent level of word knowledge, response times, and recall protocol scores.

The study used cadets studying beginning and intermediate level German at the Air Force Academy, and processed them through a four day cycle which included familiarization, vocabulary instruction, reading comprehension tasks, and then vocabulary testing. A delayed test was given two weeks later. The two independent variables were whether they had received instruction on the targeted words and whether or not they had access to an on-line dictionary during the reading of the authentic texts. Verbal skills, as determined by ACT and SAT scores, were used as a covariant. The data from one hundred randomly selected cadets was submitted for a MANCOVA analysis.

The results of MANCOVA provided some findings that serve to reinforce much of the more recent research. Direct vocabulary instruction, even in its most basic form, can further vocabulary level of knowledge above that available solely from contextual learning, or contextual learning with lexical access. In the absence of direct instruction, lexical access is capable of significantly improving word knowledge. Lexical access also provides an advantage on reading comprehension tasks, though this factor did not reach statistical significance. The examination of response times proved inconsistent and, ultimately, inconclusive. Verbal skill did not prove to be of consequence, but it must be kept in mind that the student population possesses a high and relatively uniform level of verbal skill.

Dedicated to Oma and Opa

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VITA

September 28, 1959.....Born - Jersey City, NJ, USA

1981.....B.S. Civil Engineering
United States Air Force Academy, CO

1982-1986.....KC-135 Aircraft Commander
Plattsburgh AFB, NY

1986.....M.S. Systems Management
University of Southern California

1986-1989.....KC-135 Instructor/Evaluator
Plattsburgh AFB, NY

1989-1992.....KC-135 Combat Crew Trainer
Castle AFB, CA

1992-1994.....Instructor of German
United States Air Force Academy, CO

1994-1996.....Graduate Student
The Ohio State University, OH

1996-Present.....Chief, German Division and Assistant
Professor of German, USAF Academy CO

FIELDS OF STUDY

Major Field: Education

Satellite Fields: German Literature; Statistics

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CHAPTER 1

THE PROBLEM

Introduction

The study of vocabulary acquisition, traditionally regarded with less enthusiasm by researchers than the study of grammar, has enjoyed a recent resurgence of interest (Beck & McKeown, 1991). This increase in research stems in part from the central importance of vocabulary in second language learning and acquisition (SLA) (Crow, 1986; Nunan, 1988; Laufer, 1986; Henning, 1975; Koda, 1989), as well as the development of new cognitive models that provide potential explanations for the development of word knowledge (Bialystok, 1988; McLaughlin, 1987; O'Malley, Chamot, & Walker, 1987; Hall, 1992). Despite the growing body of research, many facets of vocabulary acquisition remain unexplored, and those areas that have been investigated focus largely on children learning their native language (L1) rather than adult learners of a foreign language (FL) or second language (L2).

The existing research in L1 makes it clear that the vast majority of words acquired by native speakers are not learned through direct instruction, but rather through incidental exposure to words in contexts such as reading and discussion (Jenkins &

Dixon, 1983; Nagy & Anderson, 1984). The studies have done so by estimating the average number of new words that students learn over the course of their school years and then demonstrating that direct instruction is incapable of accounting for these increases in the number of known words. This has, in turn, led to a scrutiny of how students learn new words from text. The results indicate that students can acquire new words that they encounter in text, but that the rate is fairly low. Even this low rate, however, is sufficient over time to result in considerable increases in vocabulary (Nagy & Herman, 1987).

Reflecting this top-down communicative emphasis, Coady (1993) suggests that current approaches "assume that vocabulary will be learned naturally, with little or no overt instruction," (p. 218) but that this assumption is "problematic." Some problems were evidenced in learning through incidental exposure, most notably the inability to guess the correct meaning of many words and the possibility of applying incorrect meanings (Kelly, 1990; Schatz & Baldwin, 1986; Williamson, 1989; Haynes 1993). In general, attempts at direct instruction are successful to some extent (Mezynski, 1983), with some methods, most notably the keyword technique, resulting in consistent and positive gains (Nation, 1990; Pressley et al, 1987; Stoller & Grabe, 1993). The tendency throughout the studies of vocabulary acquisition was to examine direct-instruction and incidental learning independently, or to pit the forms against each other.

Another finding in the extant research is a persistent high correlation between vocabulary knowledge and reading comprehension (Curtis, 1987). In short, a knowledge of vocabulary (and the

associated general knowledge of concepts) is a vital factor in comprehending texts (Anderson & Freebody, 1983), and the ability to comprehend appropriate portions of the text is necessary if one is to be able to accurately acquire new words through incidental exposure (Drum & Konopak, 1987). Although research has indicated that vocabulary instruction can increase comprehension, the improvements, despite achieving significance, generally remain small (McKeown, Beck, Omanson, & Perfetti, 1983; Stahl & Fairbanks, 1986). Nevertheless, investigating the effect of the availability of definitions on comprehension may shed further light on the vocabulary-comprehension relationship.

The impetus behind this study is the possibility that the direct instruction of definitions may bolster subsequent learning through exposure and possibly increase overall reading comprehension of the targeted texts. As stated earlier, studies of vocabulary acquisition have tended to examine either learning from context or direct instruction, with no major studies considering the effect of a combination of the two. The absence of studies is somewhat surprising when one considers that a combination of methods is generally recommended (Graves, 1986) and that this pattern of definitional instruction followed by exposure to the new words in text is well established in most language classes (Blachowicz, 1987). Recent studies, most notably that of Knight (1992), have shown that giving adult L2 learners access to a bilingual dictionary while reading a text led to significant increases in both the amount of incidental vocabulary acquired and retained, as well as greater reading comprehension. The current study, which also includes a variable for on-line dictionary access, seeks to investigate whether

there are advantages in more deliberate advance instruction of definitions.

Statement of Problem

There has been insufficient research into the ways in which direct instruction and incidental learning interact in forming vocabulary knowledge. This study's primary aim is to answer the following question: Does prior definitional instruction significantly enhance subsequent level of knowledge of targeted words from an authentic text above that level achieved by acquisition from context? This question is to be examined under conditions of lexical access and no lexical access. Recent dictionary studies have shown improvement for subjects having lexical access during reading and, as a result, it is important to determine whether any additional advantage can be gained by prior instruction. If the students achieve the same degree of success with dictionary access alone as they do with the addition of prior definitional instruction, then the common practice of such pre-teaching is brought into question. If, on the other hand, the results indicate a significant difference, questions arise as to why this improvement exists and how it might be optimized. In either case, new information will arise concerning the relationship between prior instruction and learning from context.

A secondary connected question is: Does prior definitional instruction significantly increase reading comprehension of authentic texts containing those targeted words? Given the close nature of the relationship between vocabulary knowledge and reading comprehension, it is enlightening to examine the impact, if any,

that definitional instruction may have on the comprehension of the authentic text. Although some studies have indicated significant comprehension increases because of prior vocabulary instruction, many have registered less significant differences. Improvement in reading comprehension is an indirect extension of the new lexical knowledge and can be mitigated by numerous other factors (Bernhardt, 1992).

Distinctions between L1 and L2 Learners

As mentioned previously, the majority of the data concerning incidental vocabulary learning is found in L1 research. Although providing insight and general direction, the results of L1 research with children must be applied cautiously to adult L2 learners. There are important differences between these two groups, some subtle, others more direct. Adult learners approach L2 with concepts and vocabulary already established, whereas children are lacking many of these adult concepts (Stoller & Grabe, 1993). Also, the rich contextual sources enabling the naturalistic acquisition of L1 are generally unavailable in a foreign language learning situation (i.e., television and magazines in L2). Foreign language learners normally do not have an established listening vocabulary (Hague, 1987). In addition, adults normally use different strategies in learning words than children do (Stoller & Grabe, 1993). Lastly, mature learners may prefer more direct (traditional) instruction (Chaudron, 1988), which often includes a propensity for consulting definitions (Stoller & Grabe, 1993). In light of these differences, it seems likely that incidental learning is different for FL learners and that some direct instruction, already an

integral part of many foreign language classrooms around the globe, provides an important link to vocabulary learning.

Significance of the Problem

Recent L1 and L2 research has placed increasing emphasis on the possible roles of vocabulary instruction; yet, research on the effect of teaching targeted vocabulary words to adult FL learners remains largely unaddressed. This study investigates this area in order to provide some initial answers on the effects of this practice, and serve as guidance for future research on vocabulary instruction. Accepting the view of vocabulary learning as stages or multi-level (Beck & McKeown, 1991), then the research provides some insight into the initial stages of acquisition. The study also investigates the relative effects of prior vocabulary instruction on subsequent depth of lexical knowledge and automaticity.

On a more practical note, the study involves the use of a computerized instructional program, which, in turn, provides more information on the use of technology in L2/FL instruction. If this instruction results in significant gains in vocabulary knowledge or reading comprehension, the study will provide a potential format that other instructors or researchers may adapt. The SLA field is attempting to come to grips with the issue of how new technologies are best employed, and this study supplies some suggestions. In the long term, this type of investigation holds the potential to allow students to learn vocabulary (at least the initial exposure) at their own pace, thus freeing class time for other vocabulary enriching pursuits.

One side benefit, albeit not an actual objective of the study, was to re-examine Knight's (1992) results indicating that lexical access while reading texts provided significant differences in word knowledge and gains in reading comprehension. Another noteworthy aspect of the study was keeping the amount of time spent instructing each word realistic (less than three minutes). Much of the previous research has not concerned itself with this limitation.

In short, the study has significance from both the theoretical and pedagogical standpoints. It begins to answer some of the questions concerning the nature of relationship between vocabulary instruction and subsequent vocabulary knowledge and reading comprehension, it provides further insight into the use of technology in SLA, and it provides a useful framework for future research.

Purpose of the Study

The purpose of this study is to examine the effect of instructing college-level beginning and intermediate learners of German on the definitions of targeted vocabulary they will subsequently be exposed to in authentic reading texts. The measures of interest are vocabulary knowledge and reading comprehension. The research questions for this study are:

1. Is there a significant difference between the vocabulary scores of the focus versus the non-focus group as measured by depth of knowledge, automaticity and reading comprehension?

2. Is there a significant difference between the groups with and without lexical access as measured by depth of knowledge, automaticity, and reading comprehension?
3. Is there a significant interaction between group (focus/non-focus) and lexical access (yes/no) on measures of depth of knowledge, automaticity, and reading comprehension?
4. Is there a significant difference between a post-test and delayed post-test two weeks later on depth of knowledge and automaticity?

Definition of Terms

The following terms are defined for this study:

Acquisition from context: Learning vocabulary by using cues from the surrounding text, whether intentionally or incidentally.

Automaticity: Concerns the ease and readiness with which a person can retrieve his or her lexical knowledge from memory; in this study refers to the speed of retrieval as measured by the student's reaction time to word identification tasks on the computer.

Delayed testing: Vocabulary test administered two weeks after the initial test.

Focus group: Refers to those students who have received instruction in the definitions of the targeted words; consists of a minimum of 3 exposures to each targeted word.

Foreign language (FL) learning: Distinguished from L2 in that it is normally learned in the absence of direct access to L2 culture and learning.

Immediate testing: Vocabulary test to be taken 24 hours after reading the texts.

Incidental learning: Refers to the acquisition of vocabulary while focusing on another task, such as reading; learning that is unintentional in nature.

Level of word knowledge: Refers to the various degrees of word knowledge--conceptually a continuum from zero knowledge of a word to complete knowledge in every possible context, in this study refers to the four level rating scale developed by Dale (1965).

Lexical access: Refers to readers having access to a bilingual dictionary while reading passages; in this study both the text and dictionary access will be via computer.

Non-focus group: Refers to those students who received definitional instruction on non-targeted vocabulary.

Recall protocol: A procedure in which subjects write down (in their L1) as much as they can remember about a text immediately after reading it and without referring back to it; these recalls are then scored based upon weightings assigned to various portions of the text (propositions) contained in the test according to Johnson's propositional analysis system (1970).

Select-Definition Test: Measures the ability of the subject to recognize the correct English definition for a German word.

Supply-Definition Test: Measures the ability of the subject to supply the correct English definition or equivalent for a German word.

Targeted Vocabulary: Words in the authentic texts which are unknown to the subjects and will be instructed to those in the target group; the words will be those that were not instructed in their classes

and confirmed as unknown by using Anderson and Freebody's (1983) Yes/No vocabulary test.

Theoretical Considerations

Although incidental learning may hold the key to large-scale vocabulary development, there are some significant problems in relying solely upon this method. Some researchers have found that subjects are often unable to guess correct meanings from words to which they are exposed in texts (Kelly, 1990; Schatz & Baldwin, 1986; Stein, 1993). This inability to derive correct meanings is particularly acute in those learners with lower verbal skills (Stahl & Erickson, 1986), as well as for low frequency words (Schatz & Baldwin, 1986). Kelly (1990) states that when reading in a FL "that unless the context is very constrained, which is a relatively rare occurrence, or unless there is a relationship with a known word . . . supported by context, there is little chance of guessing the correct meaning" (p. 203). Incorrect guesses at meaning can, in turn, lead to further complications because the students will believe strongly that they have derived the correct meaning and will base future interpretations upon this meaning. It has been shown in comprehension tasks that subjects are extremely reluctant to change these meanings once they are decided and will sometimes alter the gist of the text to make it agree with these misunderstood meanings (Bernhardt, 1991).

Several recent studies involving the use of dictionaries combined with reading words in context may shed light on the process of vocabulary learning. This research has all shown significant

improvements in word knowledge when definitional information was made available (Knight, 1992, 1994; Luppescu & Day, 1993). These same studies, along with others (Beck, McKeown, & Omanson, 1987; Gauthier, 1991) have also shown increases in reading comprehension as a result of vocabulary instruction. Another important finding has come from a recent study by McKeown concerning the nature of the definitions used for instruction. She states that the reason students often have difficulty learning from dictionaries is that the included definitions are inappropriate to the task (McKeown, 1993). Additional research has shown that altering definitions to follow McKeown's guidelines further enhances the positive effects of definitional exposure (Nist & Olejnik, 1995).

To understand how vocabulary learning takes place one must first look to the current view of word knowledge. Researchers no longer view a word as either known or unknown, preferring the concept of word knowledge as a continuum or multi-stage process (Beck & McKeown, 1991). Carey (1978) believes that words may initially be acquired through a process called fast-mapping whereby a central definition is learned (cited in Beck & McKeown, 1991). The learner's concept of the word is then gradually elaborated through slow-mapping, which requires repeated exposure to the word in a variety of situations. Along similar lines, Van Daalen-Kaptein & Elshout-Mohr (1981) conceptualized the process as the formulation of a rough meaning with empty slots for future, more specific information.

Bialystok (1988) makes the issue even more complex by positing that word knowledge develops along two separate and independent continua-- analysis and automaticity. Analysis is seen as "the

level of the awareness of the structure of the linguistic knowledge possessed by the L2 learner" (Gahren, 1993), although it may or may not be conscious to the learner. Automaticity deals with the ease with which a person can access their lexical knowledge. One of the ways in which automaticity can be investigated, the method utilized in this study, is to identify the speed of access by measuring the response times on identification and recall tasks. Bialystok (1988) has posited that learners usually emphasize advancement along one continuum at the expense of the other. In particular, those students in formal instruction settings normally give weight to analysis, whereas more naturalistic settings tend to boost automaticity.

The suggestion that vocabulary knowledge is a complex affair is in general agreement with cognitive theories. Ausabel, Novak, and Hanesian (1978) state that the most important aspect of learning new material is to establish a connection with an existing anchoring idea. Subsequent input will then strengthen, alter, or weaken the initial connections. This view of concepts as a network has grown into the current theory of Parallel Distributed Processing (PDP). In this model the brain is considered as a complex network which "learns a new behavior pattern by changing the 'weight' of its various connections on the basis of patterns received from input to it." (Spolsky, 1989, p. 227) Although concepts are not identical to words, a similar process applies to the learning of words.

Hall (1992) posits that in learning new L2 vocabulary learners follow a "parasitic strategy which ensures the simplest connections between L1 and L2 representations" (p. 2), and that they do this by seeking translation equivalents in their L1. He goes on to draw a

distinction between knowledge (concepts) and linguistics (words), suggesting that meaning and thought are non-linguistic (citing Jackendoff, 1983), which, in turn implies that they are represented and stored differently in the mental network. Therefore, the meaning of a word is determined by the concepts to which it is attached. According to this model, the key to learning L2 vocabulary is to first establish the new linguistic forms, and then make the appropriate connections to existing concepts (many of which will be in L1). In light of this perspective, Hall finds a useful role for traditional vocabulary instruction and believes that it will ease the cognitive load when the words are subsequently encountered in text.

All of the above conceptualizations share a view that word knowledge is a complex affair and that the learning of vocabulary is, likewise, many-faceted. Studies to date have shown several factors that seem to be helpful in both incidental and direct vocabulary learning. First, more exposures to the new word normally leads to greater word knowledge (Mezynski, 1983). Second, learning is enhanced when the words are provided with some form of contextual support which provides additional information concerning how the word should be used (Graves, 1986). Lastly, the degree of analysis, or "depth of processing" plays a significant role in how well the new vocabulary is learned and retained (Williamson, 1989; Pressley, Levin, & McDaniel, 1987).

The factors that affect incidental learning can be categorized as reader variables and text variables, with the latter also including contextual variables. First, readers vary "in their ability to infer and remember meanings or words encountered in text"

(Knight, 1992), those learners with greater verbal skills and language proficiencies normally being able to extract more words from a given text. Both cognitive abilities and background knowledge can impact the success learners have in utilizing text and contextual clues. Also, certain characteristics of words such as word difficulty, part of speech, and morphological transparency (Nagy et al, 1987), help to determine the ease with which the new words can be learned from context. Word difficulty relates to the degree of cognitive work required to incorporate the new word into the learner's knowledge structure, for instance it is easier to learn a word referring to a known concept than one involving an unknown concept. Lastly, contextual cues can play a strong role in either supporting or degrading the ability to discover the meaning of a new word (Sternberg, 1987; Jenkins & Dixon, 1983).

So how might prior definitional instruction assist the process of acquisition from context? Certainly no claim can be made that exposure to a definition will result in any form of complete word knowledge, but rather that students will achieve what Beck refers to as the "acquainted level". Graves and Prenn (1986) suggest that even a brief encounter with a word will leave some trace of its meaning and make students more likely to fully grasp its meaning when they come across it again in context (Jenkins, Stein, & Wysocki, 1984). Moreover, brief instruction, provided immediately before students read a selection containing the word, "may be sufficient to prevent their stumbling over it as they read" (Graves & Prenn, 1986, p.598). Nation (1982) claims that some list learning (definitional instruction) has been shown beneficial, and that presentation of words prior to their appearance in texts can be

effective. The addition of lexical access during reading may provide further assistance by way of more exposures to the definitions, confirming or rejecting guesses at meaning, and reinforcement of known words.

In those situations in which there are a few contextual clues to indicate meaning, providing definitions may be the only way a student can acquire certain words. Research has indicated that, at least in authentic materials, it is more often than not the case that passages provide inadequate contextual clues (Kelly, 1990; Schatz & Baldwin, 1986). Vocabulary instruction may also assist incidental learning in a more indirect way by igniting a greater general interest in words and, thereby, improve acquisition of non-targeted words (Beck, Perfetti, & McKeown, 1982).

Assumptions

The following assumptions were made for this study:

1. All subjects will perform to the best of their ability.
2. Rating of written definitions by a panel of language instructors is a valid and reliable measure of depth of word knowledge.
3. Reaction time is a valid and reliable measure of the level of automaticity of the subject's word knowledge.
4. Subjects possess sufficient computer skills to accomplish the required tasks.

Limitations

The following are limitations of the study:

1. The high verbal abilities of the subjects do not reflect the general population.
2. Results may vary depending upon the type of unknown words selected.
3. Results may vary if the contexts in which the words are presented are altered.
4. The computerized instruction will be limited to the available technology.
5. Generalizations may be limited to learners of German.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This study investigates the effect of direct instruction of targeted vocabulary words on subsequent vocabulary knowledge and reading comprehension. A review of the SLA research shows that vocabulary has, until recently, been slighted by researchers, who generally preferred to focus on other aspects, primarily grammar (Gass, 1988; Hague, 1987). Both L1 and L2 research will be cited, although the bulk of the literature concerns L1 studies. The review of the literature is organized as follows: (a) the roles of incidental learning and direct instruction in vocabulary acquisition, (b) recent studies involving definitions and vocabulary learning, (c) the combination of definitional instruction and contextual exposure, (d) vocabulary knowledge and reading comprehension, and (e) methods for measuring vocabulary knowledge and reading comprehension.

Incidental Learning versus Direct Instruction

The importance of vocabulary learning to language acquisition, particularly reading comprehension, has generally been accepted by

those involved in the fields of L1 and L2 language learning (Stoller & Grabe, 1993; Chall, 1987). Most students of an L2 rate lexis as their main concern (Crow, 1986; Nunan, 1988). Research on lexis, however, has generally taken a back seat to grammar research. Much of the lexical research that was completed dealt with children learning their L1 - how rapidly their vocabulary knowledge expanded and how they acquired this knowledge.

This L1 research indicated that the vocabulary taught directly in the classroom could only account for a small percentage of the total vocabulary that children possessed (Sternberg, 1987). Studies were conducted in order to determine the number of words that could be learned incidentally through encounters in context. The results of these studies varied widely, with the study by Siragi, Nation, & Meister claiming that the learners were able to learn 68% of the targeted words on the one hand, and Nagy and Herman (1987) finding that their students learned an average of 1 in 20 words, or roughly 5%. The differences between these studies helps to illuminate the difficulty in standardizing these studies. In the first study highly literate adult learners were exposed to artificial words occurring frequently in the text (many 18 times or more). Nagy and Herman examined younger learners studying real words occurring with much lower frequency. When taken in total, the studies indicate that the percentage of unknown words learned incidentally was rather low, but given the tremendous number of L1 words to which students are exposed daily, this low rate is sufficient to provide substantial vocabulary development. (Nagy & Herman, & Andersen, 1985; Nagy & Herman, 1987).

As seen above, there is a great deal of variation in examining learning words from context. Sternberg (1987) has identified some mediating variables responsible for this variation:

- 1 Number of occurrences of the unknown word: multiple occurrences increase the number of available cues and can increase the usefulness of cues if the reader integrates this information.
- 2 Variability of contexts in which multiple occurrences of the unknown word appears: variable contexts increase the likelihood that a wider range of types of cues will be supplied and thus aid the reader.
- 3 Importance of the unknown word to understanding the context in which it is embedded: words perceived as unimportant may be ignored.
- 4 Helpfulness of the surrounding context in understanding the meaning of the unknown word and its proximity.
- 5 Density of unknown words: in passages containing a relatively high number of unfamiliar words, context provides less information about the meaning of any single word.
- 6 Usefulness of prior knowledge in cue utilization: usefulness will depend in large part on a given individual's ability to retrieve information, to recognize it's relevance, and then to apply it appropriately.
(p. 92-94)

The factors listed above provide a reasonable synopsis of the major variables shown to impact the incidental learning of vocabulary, all having demonstrated importance in incidental learning.

The realization that most words are learned indirectly does not reduce the potential contribution of some form of instruction (Sternberg, 1987, Stahl & Fairbanks, 1987). As noted earlier, virtually all attempts at direct vocabulary instruction are, in fact, successful to some degree (Beck, McKeown, & Omanson, 1987; Kameenui, Carnine, & Freschi, 1982). In particular, mnemonic devices and the "keyword" approach have provided larger and more

consistent gains in vocabulary knowledge than have other methods (Pressley, Levin, & McDaniel, 1987).

The different success rates between studies are often ascribed to several factors, primary among them are the amount of exposure to the vocabulary, the context in which the exposure occurs, as well as the 'depth of processing' (McKeown & Curtis, 1987). It has been consistently shown that more frequent exposure to a word in varied contexts results in greater vocabulary acquisition, meaning that studies which spend a great deal of time on each word have an inherent advantage on subsequent word knowledge (McKeown, Beck, Omanson, & Perfetti, 1983). It also appears that methods which task more mental capacities (greater depth of processing) show larger gains in lexis than methods which fail to do so (Pressley, Levin, & McDaniel, 1987; Nation, 1990). The success of the keyword method, which requires learners to form associative links between a word and its' definition, may be attributed, at least in part, to this depth of processing. The effect of both of these factors, time and processing depth, would be supported by the PDP model in that they would serve to strengthen the connections involving the word and its meaning.

Although some researchers maintain that vocabulary should be acquired through context, the cited studies, taken in sum, lend support to direct instruction as a useful adjunct for acquiring vocabulary (McKeown & Curtis, 1987; Huckin, Haynes, & Coady, 1993). These L1 studies can help inform research in FL and L2, but differences between these situations (L1 vs FL/L2) must be used to determine which results are applicable. There are some important

distinctions between L1 and L2, as well as differences between child and adult learners.

Children learning their L1 normally have an existing functional vocabulary and a good knowledge of syntax, an advantage not shared by L2 learners (Graves, 1987). L1 students are also not influenced by transfer effects which can impact L2 learners (both negatively and positively). L2 learners, in particular mature learners, bring a broad spectrum of knowledge to the task - conceptually, in terms of L1 lexicon, as well as in terms of cognitive maturity (Hague, 1987). Finally, L2 learners, having already learned their L1, may have access to well-developed learning strategies.

Given these differences, Stoller and Grabe (1993) summarize the general findings of L1 studies that may be applicable to L2:

- vocabulary knowledge is the 'cornerstone' of literacy
- instruction has an impact on both vocabulary knowledge and reading comprehension
- incidental learning may account for a large portion of vocabulary growth (requires independent learning strategies)
- learning vocabulary requires multiple exposures
- learners must be able to relate new lexical items to existing knowledge

These statements suggest that both incidental learning and direct instruction are capable of contributing to the learning of L1 and L2 vocabulary, however further research is needed.

Situational differences also affect the manner in which vocabulary is acquired. For most foreign language learners, the kind of exposure that makes incidental learning of an L1 lexicon possible is normally not present (Allen, 1992; Hague, 1987). This

suggests that "incidental learning of vocabulary to any great extent is improbable" (Hague, 1987, p. 220), particularly in the early stages of language learning. Kelly (1990) cites some potential problems of FL students 'guessing' the meanings of words by their context. Other researcher also find this 'guessing' problematic, asserting that students often lack sufficient knowledge to access the correct meanings of words and, as a result, often mis-identify words (Haynes, 1993; Holmes & Ramos, 1993). It would appear that one role of instruction may be to provide the necessary bottom-up knowledge required for correct 'guessing' of word meanings, or incidental learning. None of the L2 studies suggests that there is no role for incidental learning; almost all see at least some role for direct instruction (McKeown & Curtis, 1987; Huckin, Haynes, & Coady, 1993).

There has been an increase in the overall amount of L2 vocabulary research, but much of it has been concerned with problems of contextual guessing, learner strategies, and impact on reading comprehension. Two of the studies that have dealt with instructional approaches are those of Brown (1993) and Coady (1993). Brown found that the following factors affect vocabulary acquisition: (a) general frequency, (b) word saliency (importance) in the specific context, and (c) prior knowledge of the concept involved. The study by Coady (1993) investigated whether "computer-assisted instruction in high frequency vocabulary items will increase the amount of sight vocabulary" (p. 220) and, in turn, reading comprehension. The results of his study showed statistically significant improvement in vocabulary knowledge and

comprehension, as well as a positive response on the part of the students for the computerized instruction program.

In summary, the emphasis on incidental learning, predicated on the early L1 research, has been adapted to include a role for certain degrees of vocabulary instruction. In L2 research, "a more viable approach to second-language reading and word-guessing appears to be one in which learners employ both top-down and bottom-up processing in complementary fashion" (Huckin & Haynes, 1993, p. 291). Vocabulary instruction, in other words, in addition to providing direct word knowledge, enables learners to acquire words from context.

Recent Studies Involving Definitions and Vocabulary Learning

The number of studies concerning dictionary use and vocabulary learning has been quite small (Nist & Olejnik, 1995), and much of this research does not support the use of dictionary to increase vocabulary (Crist, 1981; Eeds & Cockrum, 1985). The lack of research becomes even more pronounced when examining L2 research, but recent studies by Knight (1993) and Luppescu & Day (1993) have begun to address these issues. More recently Nist & Olejnik (1995) have investigated the interaction of context and access to definitions on levels of word knowledge. Although this latter study is in L1, many aspects of the study can inform L2 research. In particular, the emphasis on the adequacy and appropriateness of the definitions, as specified by McKeown (1993), should apply equally to foreign language learning.

The Knight study investigated whether dictionary access and verbal ability would impact students' incidental vocabulary learning

from context. The subjects for her study were 105 students enrolled in Spanish 201 at Central Michigan University. These students were then randomly selected into either the group with dictionary access or the group without access. These students were then exposed to two authentic Spanish articles that had been selected as appropriate by a team of Spanish instructors. Twelve targeted words were chosen from each text and verified as unknown by the students. Following the reading of the texts, the students were given vocabulary and comprehension tests. Specifically, vocabulary knowledge was tested via a supply-definition test and a select-definition test, and reading comprehension was tested by an immediate recall protocol. A second test of vocabulary knowledge was given two weeks after the first test to examine the delayed effects. The results were subjected to analysis by ANOVA.

In sum, the study found that students can learn new words incidentally, but that "high verbal ability students learn more words than low ability students, and students who use a dictionary learn more than those who do not" (Knight, 1994, p. 292). The supply-definition tests showed that those students without dictionary access learned five to seven percent of the targeted unknown words, whereas the students with access to definitions learned between 19 to 21 percent of the unknown words. When tested with select-definition tasks the scores more than doubled, but those with dictionary access maintained a significant advantage. Although all groups benefited from dictionary access, it provided a special advantage to the low verbal ability group. In terms of reading comprehension, the means for those with dictionary access were consistently higher than for those without access, though a

significant difference was noted only for the low verbal ability group. The study also found that reading time increased 40-45 percent for the students with dictionary access, but that "the amount of vocabulary learned increases in greater proportion" (Knight, 1994, p. 294). Overall, the study shows that access to definitions provides benefits in both vocabulary knowledge and comprehension, especially for learners with lower verbal abilities.

Another study which examines the use of dictionaries during reading and subsequent vocabulary knowledge is that of Lupescu and Day (1993). They believed there would be no significant difference between the group with dictionaries and those without dictionaries based upon Krashen's implication that vocabulary acquired naturally will be more persistent than that which is learned via definitions. A second focus of the study was the amount of time both groups would require to read the assigned story.

The study involved 293 first- and second-year Japanese students studying English as a foreign language. They were randomly assigned to one of the categories (dictionary/no dictionary) and instructed to read a short story containing 17 targeted words that the participants in the study either did not know or found difficult. The original text of the story had been altered to increase the frequency and the contextual support of the targeted words. After reading the story, the subjects took a select-definition test to measure their vocabulary knowledge.

An analysis of the results indicates that the means of the vocabulary scores for those students who used dictionaries was 50% higher than for students without dictionaries. This was in direct contradiction to the expectation of the investigators. Consistent

with the study by Knight, this study also found that reading time for the dictionary users was twice that of group with no access. One interesting finding was that the results varied with item difficulty, leading the researchers to conclude that use of a dictionary may sometimes be 'misleading or confusing'. This concept that the definitions themselves may be part of the problem is dealt with in a paper written by McKeown (1993).

McKeown takes the view that definitions one finds in traditional dictionaries are not necessarily set in a form appropriate for learners. Definitions are normally written in fragmented language and often use multiple listings in an attempt to include all possible meanings. McKeown (1993) believes these factors can confuse learners and make finding the correct meaning for a word a complex process. This process, as described by Lupescu and Day (1993), "may entail looking for a suitable headword, comprehending the entry, locating the appropriate part of the definition, and connecting with the right sense of context" (p. 274). McKeown prefers to view definitions as an "initiating event", "unlikely to promote a complete understanding of a word" (p.17) which requires repeated exposures, but providing a summary meaning which learners can readily grasp and from which they can expand their understanding of the word.

She provides the following principles for writing definitions:

- (a) identify the essence of a word and its role in language, (b) pinpoint the word's characteristic use, (c) make the word accessible to the learner, and (d) arrange for attention to the whole definition rather than just a fragment. The following example

illustrates the traditional and revised definitions for the word covert.

Traditional: kept from sight; secret; hidden

Revised: describes something that is done in a hidden or secret way

Her study indicated greater learning by students provided with revised definitions and, in general, indicates that definitions can aid vocabulary development "by initiating the process of knowing a word or by providing a coherent summary of meaning that can be used as a reference" (McKeown, 1993, p. 29).

Nist and Olejnik (1995) make use of McKeown's definition research in their study investigating the interaction between context and definitions, a subject not previously investigated. In this L1 study the researchers randomly assigned 186 college freshmen to one of four groups encompassing all the possible combinations of weak and strong context and inadequate (traditional) and adequate (revised according to McKeown's guidelines) definitions. The subjects were given twenty minutes to learn the vocabulary from the materials they were given. "Each word was presented, first, in either a strong or weak context, immediately followed by an adequate or inadequate definition" (Nist & Olejnik, 1995, p. 181). The students were then tested on their knowledge with two different forms of multiple choice, sentence generation, and fill in the blank.

The major finding of the study was that providing adequate definitions made a significant difference in all four of the vocabulary tests. Those students with adequate definitions achieved 60% accuracy on the sentence production, and 80-90% on the remaining

tasks. The effects for context and the interaction between definition and context were non-significant across all tests. The failure of context to be significant may be related to the way the words were presented, one by one rather than incorporated into a coherent text, leading the students to view learning the definition as the primary task. The researchers also posit that using definitions might be a preference in older learners. Overall, the study supports the use of definitions in vocabulary learning, particularly definitions revised to be appropriate for learners.

These recent studies have all shown that providing access to definitions has resulted in significant gains in subsequent vocabulary knowledge. Reading times are considerably increased, in the region of 40-50%, but there was an even greater increase in word knowledge. Knight's (1992) finding that there was an increase in reading comprehension is also in agreement with past studies.

Definitional Instruction and Contextual Exposure

The possibility that definitional instruction will benefit subsequent contextual exposure is based upon many of the issues already discussed. If one accepts the notion that word knowledge develops from a rough representation and slowly expands and evolves by developing and strengthening mental connections (van Daalen-Kaptein & Elshout-Mohr, 1981; Hall, 1992), then prior instruction provides an "initiating event" (McKeown, 1993) resulting in an general acquaintance with the word. This familiarity may prevent stumbling over these words when seeing them in text and allow for greater concentration on other aspects of the passage (Graves & Prenn, 1986). The instructed words may also provide contextual

clues for unknown, or lesser known, vocabulary. In addition, the possession of a rough meaning can prevent some of the erroneous guesses that might otherwise occur (Kelly, 1990). These false meanings, if they are located in a critical segment of the passage, can adversely impact the reader's understanding of the overall text (Bernhardt, 1991). Admittedly, the representation for a word that most students will possess after brief instruction is vague, but that crude conception may be adequate to provide a foundation from which to make informed elaborations, as well as preventing some inappropriate guesses at meaning.

Many of the justifications above can be applied equally to the success of the lexical access studies cited. What has not been addressed, however, and of interest in the current study, is the possible interaction between prior instruction and lexical access during reading.

There are several reasons to believe that there may be a significant effect when prior instruction and lexical access are combined. First, there is the straightforward matter of frequency - - the more often that students are exposed to a word the more likely they are to learn and retain its meaning. The strong effect for frequency is one of the most consistent findings in vocabulary research (Beck et al., 1983; Graves, 1987; Brown, 1993). Second, there is the benefit of subsequent reinforcement of the definitions, cited as beneficial by Pimsleur (1967) as well as Ausabel, Novak, & Hanesia (1978). The latter group has proposed an "immunizing" effect that occurs because "trying to remember makes the learner aware of relevant related concepts in cognitive structure" (p. 328), and the learner is therefore in a better position to learn from

subsequent encounters. Lastly, the availability of definitions during reading also allows the reader to more accurately confirm or reject guessed meanings. It is the case that many students, particularly adults, like to confirm words, even those they feel secure about. This confidence in the base definition may then allow them to investigate the text for possible differentiation or subtleties in the word's meaning.

Many researchers have argued for a mixed approach (Beck et al., 1983; Huckin & Haynes, 1993; Mezynski, 1983; Stoller & Grabe, 1993), and this combination of definitions in isolation followed by definitions in a meaningful context is in accordance with the suggestion that words should be seen frequently under varied conditions. Although Nist and Olejnik (1995) failed to find any interaction between definitions and context, their study was different in two important aspects--the artificial manner in which the words were presented and the limited (one sentence) context. Given prior instruction to establish a rough meaning, the evidence suggests that there may well be a symbiotic effect when lexical access is present during the reading task.

Vocabulary Knowledge and Reading Comprehension

The research to date has established a strong and consistent relationship between vocabulary knowledge and reading comprehension, both in L1 and L2 (Curtis, 1987; Huckin, Haynes, & Coady, 1993). These findings are problematic from the standpoint that they do not determine cause and effect, or stated another way, it is unknown whether vocabulary knowledge leads to good reading, or if good readers learn more vocabulary. Some researchers forward a two-sided

approach, suggesting that the two factors nurture each other. Whatever the actual nature of the link, this relationship is a primary motivation for much of what is done in vocabulary instruction (Nagy & Herman, 1987).

Mezynski (1983) posited four positions (modified from Anderson and Freebody) to attempt to explain the link between vocabulary knowledge and reading comprehension. The four positions include a belief in an innate mental mechanism (Aptitude), the knowledge of words as a prerequisite to comprehension (Instrumental), that word knowledge represents the general knowledge needed for comprehension (Knowledge), and that automaticity of word knowledge aids comprehension (Access). Hague (1987) believed that a combination of these theories would be more useful in illuminating the relationship. The *instructional design hypothesis* (Kameenui, Dixon, & Carnine, 1987) posits that all four of the above hypotheses are combined to form a balanced, multi-variable explanation of the relationship between lexical knowledge and reading comprehension.

It must be recognized that lexical knowledge is only one factor in determining reading comprehension. Bernhardt (1991) in her Constructivist Model alludes to six factors (including word recognition) that impact on reading comprehension. In light of these many facets the question remains--can instruction of vocabulary improve reading comprehension? Stahl and Fairbanks (1987) found vocabulary instruction provided small but significant gains in comprehension of general passages, and that the gains were even more positive for passages containing the instructed words (Nagy & Herman, 1987). Though most of the instruction that resulted in gains in reading comprehension can be characterized by multiple

exposures to a word in rich and varied meaningful contexts (McKeown et al., 1983), it is very possible that less intensive methods can also be effective (Nagy & Herman, 1987). The assistance provided by this type of preparatory instruction should be amplified when the targeted words are contained within the passage to be comprehended. Though the jury is still out on the usefulness of vocabulary instruction for reading comprehension, there is sufficient evidence to continue investigating the possibilities.

Measurement of Vocabulary Knowledge and Reading Comprehension

A central question when investigating word knowledge is - "What does it mean to know a word?" Richards (1976) elaborated on this subject suggesting that word knowledge extended far beyond a definitional basis, extending to items such as syntactic behavior, underlying forms, the network of associations the word might have, among others (Coady, 1993). Researchers have posited various scales for determining word knowledge, a prevalent example being that of Drum and Konopak (1987) in which they present six levels of word knowledge:

- 1 knows a word meaning aurally but not in written form
- 2 knows a word meaning but cannot express it
- 3 knows a meaning but not the word for it
- 4 knows the partial meaning of a word
- 5 knows a different meaning for a word
- 6 knows neither the word nor the concept

Curtis (1987) reduces the number of levels to four, and Graves (1987) takes an alternate view of word knowledge based on the type of learning task. Graves also makes an important distinction

between words learned for receptive purposes and those learned for productive purposes.

This study concerns itself primarily with the receptive vocabulary, which is thought to be much larger than a person's productive vocabulary. Gahren (1993, citing Nation, 1990) states that "lexical items learned for receptive use allow the learner to: (a) distinguish the learned word from other words of similar form, (b) have an expectation of a grammatical pattern of the word, (c) recognize some of the collocations of the word, (d) know how often the word is used, and (e) recall the meaning of the word when needed" (p. 18). The main point is that there are many aspects to describing word knowledge, and, therefore, that it defies simple categorization as known or unknown.

Despite this obvious complexity, many researchers, driven largely by practical concerns, have tested word knowledge as if it could, in fact, be viewed as a dichotomy. Commonly utilized vocabulary measurement instruments include multiple choice, constructed answer, checklist formats, and matching (Anderson & Freebody, 1981). Multiple choice measures are the most popular, and are capable of measuring partial knowledge if test items and distracters are well constructed (Curtis, 1987; Nagy & Herman, 1987). Checklists that require the subjects to indicate yes/no as to whether they knew a word have also been utilized. Despite a tendency for the subjects to answer yes to more words than they actually knew, the results of Drum and Konopak, "and those of Nagy, Herman, and Anderson do corroborate the general accuracy of the Yes/No approach" (Drum & Konopak, 1987, p. 81). Constructed response, which requires the subject to provide definitions for the

targeted words, holds a great deal of potential for demonstrating various levels of word knowledge (Nation, 1990). The success of this method depends, to a large degree, on the abilities of those rating the responses (Anderson & Freebody, 1981).

A qualitative scale developed by Dale (1965) and utilized by Curtis (1987) will be used to determine depth of word knowledge in this study. The scale consists of the following stages:

Stage 1: "I never saw it before."

Stage 2: "I've heard of it, but I don't know what it means."

Stage 3: "It has something to do with." (Partial knowledge)

Stage 4: "I know it." (Correct response)

The student is first asked to select whether a word is unknown, recognized but the meaning unknown, or if the word is known (includes partial knowledge). In every instance the student is asked to provide a meaning, guessing if necessary, which is later analyzed by raters to determine if the given meaning is unknown, partially correct, or correct.

Another aspect of vocabulary knowledge, largely unaddressed, is that of automaticity, or ease of lexical access. Bialystok (1988) describes a model that has two independent dimensions of analysis and automaticity. Analysis is the equivalent to depth of knowledge as used in this study. Automaticity concerns itself with the speed and ease that one can apply their vocabulary knowledge to a given task.

Gahren (1993) investigated the issue of automaticity in his study which compares natural and instructed acquisition of vocabulary. His study of 29 advanced learners of French at the Air Force Academy included measures of vocabulary identification and

recall times as indications of speed of access to the learners internal lexicon. A computerized checklist was used to record the time between the presentation of a word and the subject's decision on whether he or she knew the word. His study indicated gains in automaticity (as well as for depth of knowledge) over the six month length of the study.

In terms of reading comprehension, traditional measures have included cloze, multiple-choice, and direct content questions. Bernhardt (1991) discusses the disadvantages of these techniques and outlines the facets of an acceptable measure of reading comprehension: (a) the measure must acknowledge the status of the reader's knowledge base, (b) the assessment mechanism must be integrative in nature, and (c) should provide process information in addition to quantifiable data. The recall protocol procedure is proposed as an answer these challenges. Subjects are allowed to examine the targeted passages as long as they desire, and then write as much as they can remember in their L1. Due to its constructive open-ended nature, "generating recall data does not influence a reader's understanding of the text" (Bernhardt, 1991, p. 200). Allowing subjects to answer in their L1 removes the confounding effect of L2 production and, therefore, gives a clearer picture of what has been comprehended. The obvious disadvantage of the protocol is that there is a great deal of subjectivity in assigning weights to the various propositions, or portions of text. The protocols used in this study have been part of a recent study conducted by Heinz (1993) at the Air Force Academy in which he evaluated the computerized scoring of recall protocols.

Heinz administered three texts to cadets studying German and asked them to provide recall protocols for each of the texts. The texts were then hand-scored by three German professors and submitted for computerized scoring on a program written by Professor Heinz. The results indicated a strong correlation (approximately .90) between hand and computerized scoring. The computerized method also proved 100% reliable assigning the exact same scores to all of the protocols on a second pass. These results are significant because hand-grading protocol is such a lengthy procedure that it is, to a large extent, impractical. The study moves protocols one step closer to practical reality. The grading sheets and the computerized program were used in the current study.

CHAPTER 3

PROCEDURES

Population and Sample

The subjects were the cadets enrolled in the beginning and intermediate phases of German language study at the Air Force Academy located in Colorado Springs, Colorado. Cadets gain entrance to the Academy through a highly competitive process that examines their academic, physical, and leadership qualities. Most of the cadets were among the top 10% of high school students and display high levels of general intelligence and L1 literacy, as evidenced by standardized tests. The 4400 cadets, generally nominated by congressional district, reflect the population densities found in the United States. Though perhaps not a perfect mirror of the society at large, an active minority recruiting program ensures a representation of the diversity found in our society. The cadets, after enduring an intense four years of academic, physical, and military training earn a Bachelors degree and are commissioned as Lieutenants in the Air Force.

Except for the roughly 15% of new cadets who demonstrate sufficient proficiency to validate out of the language requirement, there is a mandatory one year course of foreign language study for

all freshman. The cadets submit their selections from the seven available choices of languages and an effort is made to maximize the fit between slots available in the various languages and the desires of the students. German 132 and German 142 are the beginning and intermediate levels for the freshman German classes. The total number enrolled in these classes has traditionally been between 100 and 120 cadets. They receive one hour of language instruction daily throughout their freshman year for a total of roughly 160 hours of instruction. Most cadets discontinue their language study once the requirement is fulfilled, although some continue on to earn a minor in a language or decide to major in Foreign Area Studies.

Scores for sub-skills in the area of verbal ability such as those provided by the ACT or SAT were acquired from the Registrar. Specifically, overall verbal skill was available for all the participants, and the sub-skills of word knowledge and reading comprehension were obtained for roughly one third of the subjects.

Resources

The Air Force Academy provided all the resources necessary -- subjects, the computerized language lab, technical expertise, and fellow German instructors to assist in various selections and ratings, as well as advice on research and statistics. There were also computer personnel who assisted with the programming skills needed to develop the instruction program and the vocabulary test.

Research Design

The study utilized a Multivariate Factorial Analysis of Covariance design to answer questions about the effect of direct

instruction of targeted vocabulary on subsequent vocabulary knowledge and comprehension. The two independent variables are instruction of the targeted vocabulary (yes or no), and on-line dictionary access during the protocols. The dependent variables are the vocabulary scores for automaticity and depth of knowledge, and the recall protocol scores. The covariant was the subjects' verbal scores from the SAT and ACT. Lastly, the student responses to questions regarding their perceptions and attitudes about the computerized programs, as well as to the study in general, were tallied and analyzed in hopes of providing some qualitative insight to the data.

	No Instruction on <u>Targeted Words</u>	Instruction on <u>Targeted Words</u>
No Lexical Access	Group 0	Group 1
Lexical Access	Group 2	Group 3

Table 1

Data Matrix for Two-Factor Design

Instruction of the Targeted Vocabulary

This dichotomous variable addressed whether or not the subject has received definitional instruction on the 18 targeted vocabulary selected from three texts. One half of the German 132 and German 142 cadets were randomly chosen to receive prior instruction in these words, and the remainder received instruction in words that were not targeted. The instruction consisted of a minimum of three exposures to the definition of each word -- two in which the words are shown with their definitions, and then a test situation to see if the subjects could select the correct definition from a list of alternatives. Once the test was complete there was an opportunity for the cadets to go back and review any of the definitions.

The entire instructional program was delivered by computer. The individual cadets set their own pace in reviewing the words, the only restriction being that there was a maximum of 45 minutes to review all eighteen words. The results of other recent computerized vocabulary studies (Wheatley, Muller, & Miller, 1993) suggested that this would be more than adequate and should allow for plenty of time for additional review.

Dictionary Access

This variable refers to whether or not the subjects had access to on-line definitions while they were reading the texts. Once again, the placement of the subjects into one of these categories was completely random. Those cadets who had this access were able to view the definition of any word in the text by using the computer to access the chosen word from an on-screen list. The definition then appeared in a window. Once the cadet was satisfied, he or she

was able to close the definition window and move on through the text. The number of times each definition was accessed was recorded.

Instrumentation

Word Identification Task

Each subject was presented with a word on the computer screen and asked to indicate their knowledge about a word by clicking on the appropriate choice on the computer screen. The three choices were: (a) unknown, (b) recognized but the meaning is unknown, and (c) known (includes incomplete or partial knowledge. The time lapse between the initial presentation of the word and the response was recorded. This time lapse was used as a measure of an aspect of automaticity -- speed of retrieval.

Word Recall Task

Subjects were presented with the 18 targeted German words and asked to supply a definition for each word. The definitions were written in English to ensure that the cadets were able to fully articulate what they thought the words meant. Three German professors acted as independent raters of the supplied definitions. The following grading criteria were used: (a) no points for answer with no correct knowledge, (b) one point when the subject indicates recognition of the word with no further knowledge, (c) two points for an answer indicating partial knowledge, and (d) three points for an answer indicating a correct meaning.

Recall Protocols

Recall protocols were used to assess the students' comprehension of the three texts, which the students were asked to read. The protocol procedure, as advocated by Bernhardt (1991), consists of the students reviewing the texts until they believe they have gathered as much information from the texts as they can. There is no time limit on this phase. Once they are finished reading the texts they write down as much about the passages as they can remember without referring back to the text. The students are to write in their L1 in order to maximize their ability to describe what they understand. The protocols are then scored. Bernhardt has found the procedure provides a more detailed and accurate picture of what has been comprehended by the student. Johnston (1983) provides additional endorsement citing the straightforwardness and richness of the data that resulted from the protocols.

The two most common scoring procedures are those of Meyer (1985) and Johnson (1970). Both are effective in assessing comprehension, but Bernhardt (1991) determined that the use of Johnson's procedure was more efficient overall. Johnson's procedure is based upon dividing up the text into pausal units and assigning values to these units based upon their relative importance to the text. The summing of the propositions understood by the subject becomes the comprehension score.

Selection of Texts

The three texts selected were ones that had been used successfully in studies in the past, specifically the study

conducted by Heinz at the Air Force Academy in 1993 examining automated recall scoring. The texts are in German and the subjects were cadets enrolled in German classes. Two are brief reports on items of interest and the other is a letter--all are authentic in the sense that they were written in unsimplified German for actual use and remained unaltered. The texts are relatively brief, between 150 and 200 words, and are not overly complex in terms of writing or content. A preliminary study was conducted in May 1996 to determine the suitability of these texts for use in the current study. The results indicated that both beginning and intermediate learners could comprehend a reasonable portion of the text, though there was considerable variation. This result is in agreement with Heinz' results, which indicated that all students could access some of the information and that the higher scores corresponded with the higher levels of German classes. The preliminary study also found that both beginning and intermediate German students felt that they knew many of the words in the text. Given the results of this preliminary study, as well as the data gathered by Heinz, it was decided that the texts were appropriate and useable for this experiment.

Selection of Words

The bank of words for the study consists of the words not known by any of the students in the preliminary study. Preference was given to words that are widely applicable or common. In addition, the following criteria were applied:

- Six words were used from each of the texts
- The words were not instructed in class either prior to or

during the study

- The words were confirmed as unknown on a pretest

Several additional words were chosen from each text, in the event some of the cadets have knowledge of the targeted words. It proved unnecessary to use the alternate words.

Procedures and Data Collection

Pre-experiment

Two weeks prior to the experiment the subjects were given a checklist of words that included the targeted vocabulary as well as some distracter words they should have known. The cadets were asked to indicate whether or not they knew a word. Based upon the outcome of this test, six words were chosen from each text to form the final eighteen targeted words.

Experiment

The actual experiment consisted of a four-day cycle and took place in March 1997. The cycle was familiarization, instruction, followed by recall protocols, and ending with vocabulary testing.

On the first day, the students went to the Language Learning Center and went through two recalls utilizing the computerized recall procedure. The intent of this was to familiarize the subjects with the computer program and the overall process. None of the data collected during this period was utilized.

On the second day, the students proceeded to the Language Learning Center during their normally scheduled class. The selected students (half of the total subjects) received computerized

instruction on the 18 targeted vocabulary words. The other half were instructed on non-targeted words in the text. The instruction was be self-paced and allowed for ample review. The only restriction was the overall time limit of 45 minutes.

On day three, all the cadets went to the Language Learning Center and took their places at the assigned computers. They then completed recall protocols on the three selected texts. Each text was shown on the screen until the student clicked that he or she was ready to write the protocol. At that point the text disappeared and the cadets were to type everything that was understood and remembered. Once the protocol was completed the next text appeared on the screen. The pattern was repeated until all texts are completed. During this phase, half of the subjects had access to on-line dictionaries and could access the definition of any word by highlighting it on the computer screen. There was no time limit for each protocol, but rather an overall time limit of 45 minutes to finish all three protocols.

On the final day, all students once again reported to the Language Learning Center for a vocabulary test. The test was given on the computer and consisted of word identification task and a supply-definition task for all of the targeted vocabulary. Once the test was completed, the students were asked to fill out a brief survey on the computer concerning their feelings about computerized instruction and testing.

Delayed Testing

Two weeks after the testing of the vocabulary knowledge, the students returned and repeated the test in order to measure

vocabulary retention and the effect on both automaticity and word knowledge.

Pilot Study

A pilot study was conducted in February of 1997 to allow for fine-tuning of the procedures to be used for the study. The pilot study involved classes of German cadets similar to those who took part in the actual experiment. The purpose of the pilot study was to check the functioning of the computer programs, data collection, and the viability of the overall process. The pilot study covered two days in which the students went through the entire process looking for flaws. With the exception of several minor timing and on-screen presentation problems that were noted, the overall process worked well. The identified problems were alleviated in subsequent programming.

Null Hypotheses

The null hypotheses are organized under their appropriate research questions.

H01: There will be no overall significance for the MANCOVA.

H02: There will be no significant effect for the covariant of verbal skill.

H03: There will be no significant main effect for focus and non-focus groups.

Subset 1 Is there a significant difference between the focus and the non-focus group as measured by level of knowledge, automaticity, and reading comprehension?

H03a There will be no significant difference between the focus and the non-focus group on the level of knowledge results.

H03b There will be no significant difference between the focus and the non-focus groups on the automaticity results.

H03c There will be no significant difference between the focus and non-focus group on the recall protocol scores.

H04: There will be no significant main effect for the lexical access vs. non-lexical access groups.

Subset 2 Is there a significant difference between the groups with lexical access and the groups without lexical access as measured by level of knowledge, automaticity, and reading comprehension?

H04a There will be no significant difference between the groups with and without lexical access on the level of knowledge results.

H04b There will be no significant difference between the groups with and without lexical access on the automaticity results.

H04c There will be no significant difference between the groups with and without lexical access on the recall protocol scores.

H05: There will be no significant main effect for interaction.

Subset 3 Is there significant interaction between group (focus/non-focus) and lexical access (yes/no) on level of knowledge, automaticity, and reading comprehension?

H05a There will be no significant interaction between focus and lexical access on level of knowledge results.

H05b There will be no significant interaction between focus and lexical access on automaticity results.

H05c There will be no significant interaction between focus and lexical access on the recall protocol scores.

Is there a significant difference between immediate and delayed scores on depth of knowledge and automaticity?

H06 There will be no significant difference between immediate and delayed test scores for depth of knowledge.

H07 There will be no significant difference between Immediate and delayed test scores for automaticity.

CHAPTER 4

RESULTS AND DISCUSSION

Introduction

The recent trend of avoiding direct instruction of definitions has been brought into question by a number of recent studies. This study investigates whether there are advantages in deliberate advance instruction of definitions on the learning of word meanings and overall understanding of texts containing the words.

A group of 130 cadets were randomly placed into one of four groups varying on the two independent variables of lexical access and prior instruction of the targeted words. The subjects took part in a four-day process of familiarization with the computer programs, vocabulary instruction, reading comprehension, and vocabulary testing. A delayed test was administered two weeks later. One hundred cadets were randomly selected from this group for the final analysis. A Multivariate Factorial Analysis of Covariance was conducted with three dependent variables -- level of knowledge, automaticity of access, and reading comprehension. Delayed scores were also compared with the primary scores looking for differences

and patterns. For roughly one third of the participants scores were available for the two sub-skill areas of word knowledge and reading comprehension. Further analyses were conducted using these two sub-skill areas as covariant against the appropriate dependent variables.

Affective variables were examined in two ways. An on-line survey was given upon the completion of the research concerning their impression of the study and the effectiveness of the process. The second method was the selection of one subject per group for a more in-depth study. The study of these four cadets provided insights that might have otherwise escaped attention.

Data Analysis

The purpose of this chapter is to report on the preparation and analyses of the data. The quantitative aspects will be dealt with first, followed by the qualitative results. The quantitative portion will be divided up into the following sections:

- * Data Preparation
- * Descriptive Data
- * MANCOVA
 - Overall significance and effect of the covariant
 - Main Effects
 - Differences between focus and non-focus groups
 - Differences between those with and without lexical access
 - Interaction between group and lexical access
- * Differences between immediate and delayed scores

The qualitative portion will be split in the following manner:

- * Survey questions
- * Case studies

Quantitative Data

Data Preparation

In turning the raw data into data that could be conveniently analyzed, it became apparent that some additional programming could have simplified this matter greatly. An appropriate spreadsheet could have accomplished in minutes what it took weeks to complete by hand. The information gathered on level of knowledge, recalls, and automaticity all required additional manipulation to ready them as data to be analyzed.

The level of knowledge scores for individual items were examined by the researcher, and where conflicts existed between raters they were worked out between the appropriate raters. Of note, there were relatively few discrepancies between the raters -- on many pages none, and rarely more than two per subject. Once the individual scores had been checked, they were tallied for each individual and the totals were then used in the overall analysis.

The recall protocols were scored via Dr. Heinz's automatic scoring procedures. The resulting spreadsheet data was examined for any procedural or logical errors, as well as spot checking for general agreement with manual scoring. The process worked as smoothly as it had for Dr. Heinz during his own research. The raw scores were summed and the totals submitted for the analysis.

Calculating an average time score for the automaticity factor

proved more problematic. Although averaging times is a straightforward procedure, the problem was that many of the cadets had instances of time scores that were statistical outliers. This happened either through distraction (talking with a neighboring cadet) or bouts of distraction. A random sub-sample of twelve subjects was taken and analyzed. The result average was 7.82 seconds with a standard deviation of 3.62 seconds. This meant that any scores above 18.68 seconds were unlikely to come from the real population. This time frame also passes the common sense test, it being unrealistic to believe that more than twenty seconds is necessary to ponder the extent of one's word knowledge. A cutoff time of 20 seconds was used, with any scores greater than this time reduced to twenty seconds. Once these corrections had been made, the times for each subject were averaged and these averages used for further analysis.

Descriptive Data

The section examines the descriptive data resulting from the study. The first data set will be that concerning the dependent variable of word knowledge, followed by the results for automaticity, and then the recall protocols. Lastly, the delayed test scores for both level or word knowledge and automaticity are presented. The scores of the dependent variables for the experiments are arranged by means and standard deviations.

Table 2 presents the level of knowledge scores from the immediate test. Of note is the fact that the overall mean for the group that had been instructed in the target words ($\bar{M} = 32.22$) is much higher than those subjects instructed in the non-targeted words ($\bar{M} = 9.38$). Although the mean for those subjects with lexical access ($\bar{M} = 21.96$) is higher than for those subjects lacking such access ($\bar{M} = 19.64$), the difference is considerably smaller than that evidenced above. The difference between the non-focus groups, however, is quite striking, with the group having lexical access ($\bar{M} = 11.52$) roughly 40% higher than the group without access ($\bar{M} = 7.24$).

	<u>Non-Focus</u>		<u>Focus</u>		<u>Overall</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
No Lexical Access	7.24	4.70	32.04	9.11	19.64	14.44
Lexical Access	11.52	5.90	32.40	8.03	21.96	12.68
Overall	9.38	5.71	32.22	8.55	20.80	13.57

Table 2

Means and Standard Deviations of Level of Vocabulary Knowledge
Scores as a Function of Group (focus/non-focus) and Lexical Access

Table 3 presents the descriptive data for the two independent variables on the time of response. The overall focus mean (\bar{M} = 6.00) was faster than the overall non-focus mean (\bar{M} = 6.53). Whereas the faster response of the focus group was expected, the following information was counter to expectations. The mean of the response times for those with lexical access was (\bar{M} = 6.75) was slower than the mean for those without access (\bar{M} = 5.77).

	<u>Non-Focus</u>		<u>Focus</u>		<u>Overall</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
No Lexical Access	5.76	2.46	5.79	1.85	5.77	2.15
Lexical Access	7.30	2.14	6.21	1.84	6.75	2.05
Overall	6.53	2.41	6.00	1.84	6.26	2.15

Table 3

Means and Standard Deviations of Response Times as a Function of Group (focus/non-focus) and Lexical Access

Table 4 reports the descriptive data for the recall protocols on the immediate test. The subjects with lexical access (\bar{M} = 96.80) outscored those with no lexical access (\bar{M} = 86.66). Interestingly, the non-focus group scored higher in all situations. This distinction can be clearly seen in Figure 1, which clearly indicates that Group 2, the non-focus group with lexical access, is superior to any of the others.

	<u>Non-Focus</u>		<u>Focus</u>		<u>Overall</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
No Lexical Access	89.12	39.08	84.20	27.23	86.66	33.43
Lexical Access	102.00	36.99	91.60	27.55	96.80	32.70
Overall	95.56	38.22	87.90	27.37	91.73	33.29

Table 4

Means and Standard Deviations of Recall Protocol Scores as a
Function of Group (focus/non-focus) and Lexical Access

Delayed Scores

The delayed scores were gathered two weeks after the initial testing period via identical procedures. The same process was used in gathering, grading, and preparing the data. This phase of the research concerned itself with the word knowledge, so recall protocols were not part of the evaluation.

Table 5 presents the level of knowledge scores on the delayed test. In general, the means reflect the same general pattern as was seen on the immediate test, with the means for the focus group ($\bar{M} = 24.68$) being considerably higher than those of the non-focus group ($\bar{M} = 9.00$).

	<u>Non-Focus</u>		<u>Focus</u>		<u>Overall</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
No Lexical Access	6.32	4.62	23.86	8.76	15.09	11.26
Lexical Access	11.68	6.40	25.50	7.91	18.59	9.97
Overall	9.00	6.15	24.68	8.29	16.84	10.72

Table 5

Means and Standard Deviations of Level of Knowledge Vocabulary
Scores as a Function of Group (focus/non-focus) and Lexical Access
on the Delayed Test

Table 6 depicts the time responses from the delayed test. As was the case with the knowledge scores, the pattern of the responses corresponds closely with the pattern on the immediate test. In fact, the values are virtually the same as they were on the immediate test.

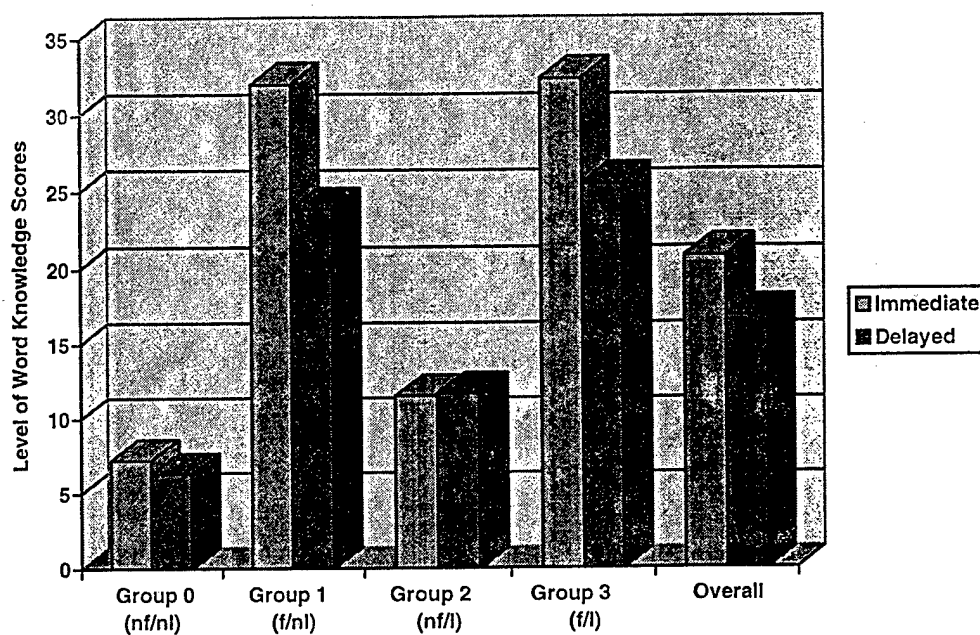
	<u>Non-Focus</u>		<u>Focus</u>		<u>Overall</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
No Lexical Access	5.87	2.51	5.35	1.75	5.61	2.15
Lexical Access	7.18	2.79	6.06	2.02	6.62	2.48
Overall	6.53	2.71	5.70	1.90	6.12	2.36

Table 6

Means and Standard Deviations of Response Times as a Function of Group (focus/non-focus) and Lexical Access on the Delayed Test

The differences between immediate and delayed scores can best be illustrated graphically, as seen in Figure 2. The superiority of Group 1 and 3, both of which had the prior definitional instruction, in both immediate and delayed testing is readily apparent. Although there is a decline in level of knowledge over the course of two weeks, even the delayed scores of these two groups tower over the level of knowledge scores of Groups 0 and 2.

Also of interest is the apparent difference between groups zero and two. These are the two groups not instructed in the targeted vocabulary, where group two had lexical access while reading the passages and group zero had no additional assistance. The scores for the group with lexical access are almost double those for the group without access, suggesting a possible interaction between instruction and lexical access.



Note: f=focus; nf=non-focus; l=lexical access; nl=no lexical access

Figure 1

Means of the Immediate and Delayed Level of Knowledge Scores by Group

In a similar graphical comparison, Figure 3 displays both immediate and delayed automaticity data. What is striking about this chart is the virtual lack of variation amongst the groups. Also remarkable is that there is a decrease in reaction time (theoretically indicating an increase in automaticity) from the initial test in three of the four groups.

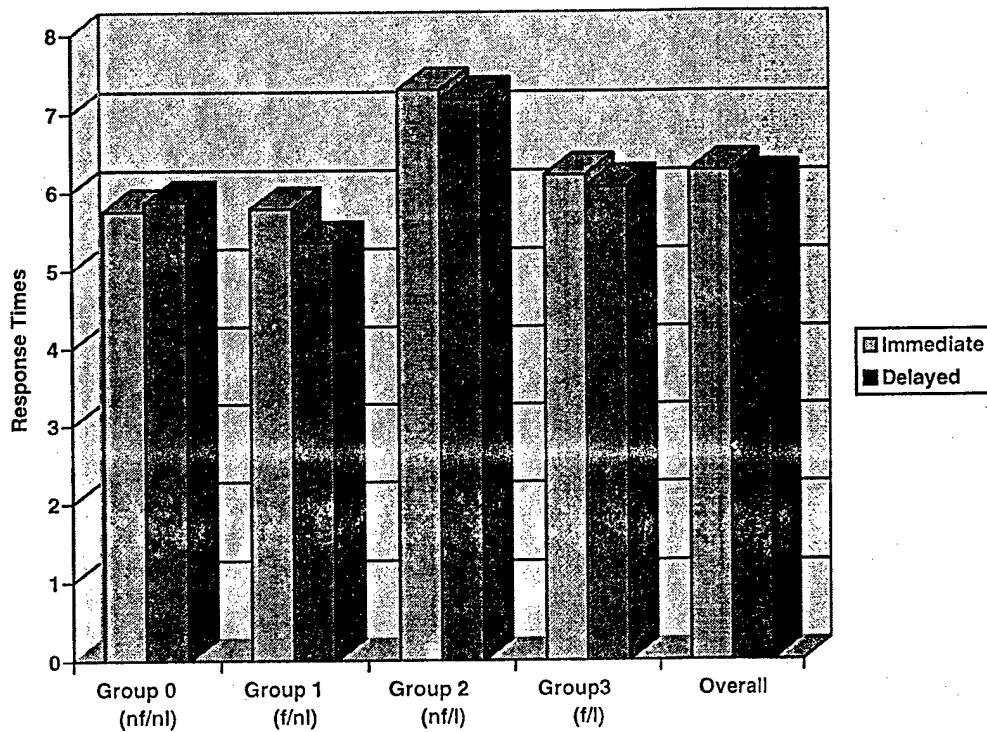


Figure 2

Means of the Immediate and Delayed Automaticity Scores by Group

Inferential Data

A MANCOVA analysis was conducted in order to answer the basic research hypotheses associated with the study. Table 7 will be used to examine null hypotheses one through five, and Table 8 will be used on for the more detailed examination of the subset null hypotheses. Hypotheses 6 and 7 were examined using simple t-tests.

Effect	Value	<u>df</u>	<u>F</u>	<u>p</u>	Power
Overall	.865	3	4.828	.004	.893
Verbal Skill	.995	3	.152	.928	.077
Group	.240	3	98.187	.000	1.000
Lexical Access	.921	3	2.654	.053	.631
Group * Lexical	.966	3	1.088	.358	.286

Table 7

Summary Table for the Main Effects of the MANCOVA

Ho1: There will be no overall significance for the MANCOVA.

This hypothesis must be rejected on the basis of the data. The $F(3, 93) = 4.828$, $p = .004$ indicates an overall significance within the MANCOVA.

Ho2: There will be no significant effect for the covariant of verbal skill.

This hypothesis cannot be rejected. Verbal skill was shown to have negligible impact with an $F(3, 93) = .152$ and $p = .928$.

Ho3: There will be no significant main effect for group.

This hypothesis must be rejected on the basis of the data. The MANCOVA resulted in an $F(3, 93) = 98.187$, with a $p = .000$. The observed power associated with this result was 1.000.

Ho4: There will be no significant main effect for lexical access.

This hypothesis cannot be rejected. The data indicated that the main effect for lexical access was just shy of significance with an $F(3, 93) = 2.654$, $p = .053$. Given the level of significance and the mediocre observed power, the area of lexical access is worthy of closer investigation.

Ho5: There will be no significant interaction between the two main effects.

This hypothesis cannot be rejected on the basis of the data. The MANCOVA revealed an $F(3, 93) = 1.088$ and a $p = .358$. The observed power for this interaction is very low at .286.

The table below contains the results of the univariate analyses and will be used to address the subset hypotheses concerning individual dependent variables.

Source	Dep Var	df	MS	F	p
Verbal Skills	Knowledge	1	10.536	.203	.653
	Response Time	1	2.587E-02	.006	.939
	Recalls	1	120.255	.108	.743
Group	Knowledge	1	12972.583	249.714	.000
	Response Time	1	6.997	1.589	.210
	Recalls	1	1540.505	1.389	.242
Lexical Access	Knowledge	1	137.879	2.654	.107
	Response Time	1	24.222	5.503	.021
	Recalls	1	2511.658	2.264	.136
Group * Lexical Access	Knowledge	1	98.056	1.888	.173
	Response Time	1	7.852	1.784	.185
	Recalls	1	177.650	.160	.690
Error	Knowledge	95	51.950		
	Response Time	95	4.402		
	Recalls	95	1109.372		
Total	Knowledge	99			
	Response Time	99			
	Recalls	99			

Table 8

Summary Table for the Univariate Analyses

Ho3a: There will be no significant difference between the focus and non-focus groups on the level of knowledge scores.

This hypothesis must be rejected on the basis of the data. The non-focus mean of 9.38 is far lower than the focus mean of 32.22 (see Table 1). The results of the MANCOVA revealed that the difference was significant $F(1, 95) = 249.71, p < .000$.

Ho3b: There will be no significant difference between the focus and non-focus groups on the automaticity scores.

This hypothesis cannot be rejected. The difference between the focus group mean of 6.00 and the non-focus mean of 6.53, though indicating a slightly faster response time, failed to be statistically significant. The MANCOVA resulted in an $F(1, 95) = 1.59, p = .210$.

Ho3c: There will be no significant difference between the focus and non-focus groups on the recall protocol scores.

This hypothesis cannot be rejected. The difference between the focus group mean of 51.34 and the non-focus group mean of 53.23 was found to be non-significant. The MANCOVA results indicated an $F(1, 95) = 1.39, p = .242$.

Ho4a: There will be no significant difference between those with and without lexical access on the level of knowledge scores.

This hypothesis cannot be rejected. The group mean for those with lexical access was 21.96 compared with 19.64 for those without lexical access. The MANCOVA produced an $F(1, 95) = 2.65, p = .107$; not significant at the .05 level of significance, but still a

84
difference worthy of some degree of attention. Upon closer inspection, however, it is apparent that if one looks specifically at the group who received no instruction in the target words there appears to be a considerable effect. Those subjects without lexical access had a mean score of 7.24, whereas those with lexical access achieved a mean of 11.52. This will be discussed further when dealing with Ho5a.

Ho4b: There will be no significant difference between those with and without lexical access on the automaticity scores.

This hypothesis can be rejected on the basis of the data. Those without lexical access averaged a response time of 5.77 seconds, considerably faster the group mean of 6.75 seconds for those with the lexical access. The MANCOVA displayed an $F(1, 95) = 5.50$, $p = .021$.

Ho4c: There will be no significant difference between those with and without lexical access on the recall protocol scores.

This hypothesis cannot be rejected. The group mean for those with lexical access was 53.58 as compared with those without lexical access of 50.99. The MANCOVA showed an $F(1, 95) = 2.26$, $p = .136$; once again not significant at the .05 level, but yet not to be completely disregarded.

Ho5a: There will be no significant interaction between group (focus vs non-focus) and lexical access on the level of knowledge scores.

This hypothesis could not be rejected on the basis of the initial data. The MANCOVA revealed no significant interaction between lexical access and group (focus/non-focus) with an $F(1, 95) = 1.88$, $p = .173$. Upon closer inspection of the data and Figure 2, however, it is clearly the case that, in the absence of instruction, the group with lexical access was well superior to the group with no lexical access.

This clear discrepancy between these two groups justified a further analysis of the data. Consequently, a simple two sample Student's t-test was run on these two non-focus groups resulting in a high degree of significance ($p = .004$). The importance of lexical access did not become apparent during the MANCOVA due to the overpowering impact of instruction, which served to mitigate the effects described just above. This dramatic difference suggests that, in the absence of any vocabulary instruction, lexical access is clearly helpful in furthering word knowledge. Examining Figure 3 provides additional support for this claim because the lines, though not having a dramatic intersection, do intersect. The point should be made that, though the relationship appears linear in Figure 3, the relationship is likely far more complex and may vary considerably depending upon the type and degree of instruction that is being provided.

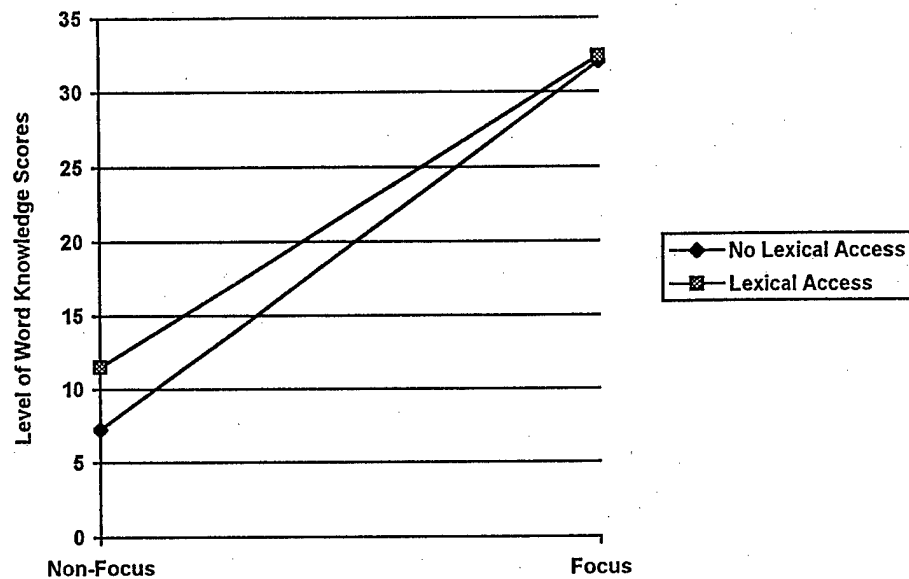


Figure 3

Graphical representation of the interaction between lexical access and group

Ho5b: There will be no significant interaction between group and lexical access on automaticity results.

This hypothesis cannot be rejected. The MANCOVA for the interaction resulted in a value of $F(1, 95) = 1.78, p = .185$; considerably less than the critical value.

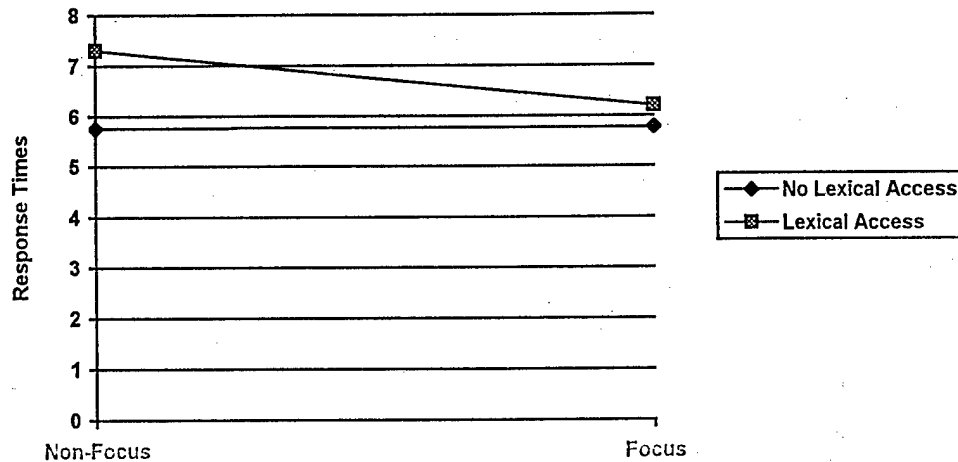


Figure 4

Graphical representation of the interaction between lexical access and group

Ho5c: There will be no significant interaction between group and lexical access on the recall protocol scores.

This hypothesis also cannot be rejected. The interaction between lexical access and group was virtually non-existent resulting in an $F(1, 95) = .160, p = .690$.

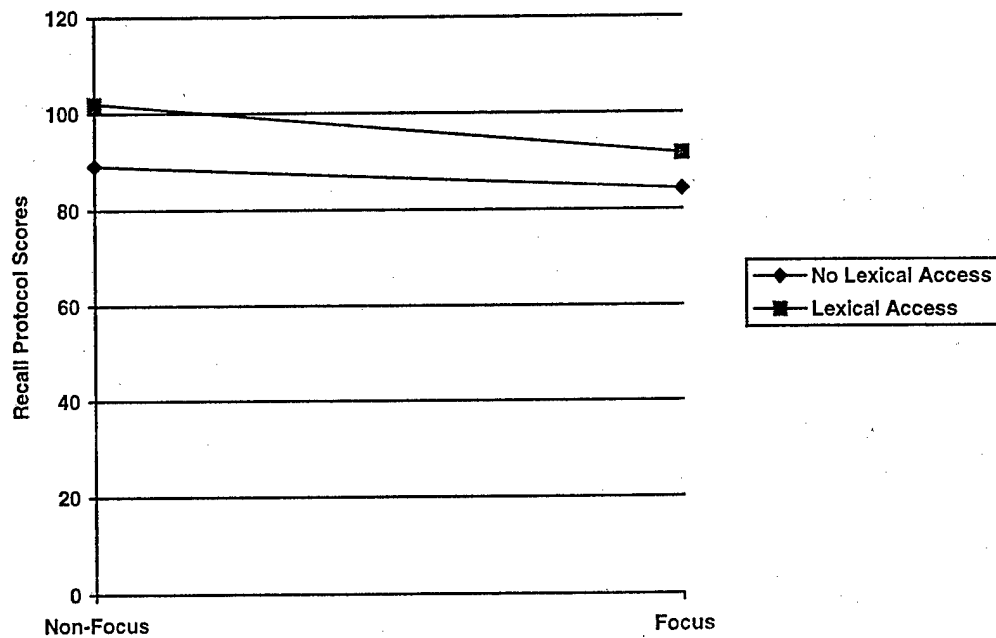


Figure 5

Graphical representation of the interaction between lexical access and group

Ho6: There will be no significant difference between immediate and delayed test scores for level of knowledge.

This hypothesis can be rejected. A Student's two sample t-test was performed with a resulting $p = .026$. This significant difference is the expected result of a two-week delay prior to administering the second test.

Ho7: There will be no significant difference between immediate and delayed test scores for automaticity.

This hypothesis cannot be rejected. The analysis, utilizing Student's t-test resulted in a $p = .660$ indicating a fairly close match between the two sets of scores.

Affective Data

The subject responses below were gathered on the computer once they immediate word knowledge test had been completed. There was no time limit and the students were encouraged to be as forthcoming as possible.

Question #1

What was your general impression of the study?

Although the responses varied, there were several consistent strands that ran through all of them. Many students voiced the opinion that the study was well organized and that the overall process flowed smoothly. The two descriptors that were advanced most frequently were *good* and *interesting*. The consensus was that

working with the computers was an enjoyable and worthwhile environment. Another consensus was that the overall level of the materials was tough, perhaps too advanced. This level of difficulty frustrated some of the subjects, but did not seem to bother others who viewed it as a challenge. In an interesting contradiction, some cadets mentioned that the study showed how much German they actually knew, while others noted that it laid bare their lack of knowledge.

Question #2

Do you feel this type of vocabulary instruction might be beneficial?

The answers to this question were virtually all in the affirmative, though they varied in the degree of enthusiasm. There were some negative responses, but they were relatively few. The responses ranged from "absolutely the best vocabulary instruction I have seen" to "the older way is better". A widely voiced opinion was that it would have been better with more cycles of repetition, and generally more exposure to the words. In terms of an initial exposure, most of the cadets felt they learned well utilizing this type of program. The overall response to this modified flash card approach was overwhelmingly positive.

Question #3

What was your impression/assessment of the computer reading comprehension program?

The impressions about the reading comprehension were also positive in general but also had many more negative comments. Many of these negative comments, however, were in reference to the level of difficulty of the articles rather than inherent problems with the

program or the process. Many felt that the articles were too hard and they found that frustrating. The common feeling, even among those who believed they did poorly, was that the program would provide an accurate reflection of their level of knowledge. There were also some negative comments about the dictionary function stating that it would be more useful if it were easier to use, specifically one should simply have to click on a word rather than having to scan through a list.

At this point, a bit of additional elaboration concerning the dictionary function is necessary. In their normal computer environment in the language lab, they have merely to click on a word and the English meaning is displayed. The procedure of having to scroll through a list naturally seems, by comparison, quite tedious and troublesome. Some of the subjects did not make much use of the dictionary function, and this may serve as a possible explanation. The list approach was utilized because the necessary programming was more achievable, and also because it more closely resembled process of using a normal dictionary. This aspect of the programming will be discussed again at a later point.

Question #4

What was your impression/assessment of the computer vocabulary program?

Although this question was targeted more at the technical aspects of the program than the instruction (question #2) the responses for this question generally echoed those in question #2. Once again, the responses were virtually all positive, but a distinction was made in this section that was not present

previously, that between the vocabulary instruction program and the vocabulary assessment program. The negative opinions were generally aimed at the evaluation portion of the study, though few specifics were given.

The calls for more repetitions of the process, resulting in greater exposure to the words, were also evidenced in this question. These requests for continued training were usually accompanied by observations concerning retention, and so may not have been directly related to the program itself. Another point of note in virtually all of the responses to this question, as well as the other questions, is that the cadets seem, with few exceptions, to be completely comfortable using and interacting with the computers. In one case, a student wrote that he "felt more comfortable with a machine than an instructor".

Question #5

Did you feel that the words you learned were helpful to you in comprehending the reading passages?

The cadets were split on this question with a slight majority believing that the learned words were at least somewhat helpful. Even those who felt the words were helpful, however, usually qualified their statements to the effect that, though the words helped establish the gist of the passages, the learned words were too few to be of assistance in deriving the details. On the other extreme, there were several subjects who felt that the words were of no help at all, citing that too much of the remaining text was unknown.

These responses amplify the complaints voiced in that the texts were of relatively high difficulty given the level of the learner. Although these types of comments were not completely unexpected given the nature of the research, the small degree of assistance rendered by the targeted words was surprising, particularly in the groups that had dictionary access to fill in the missing blanks.

Question #6

How well were you able to retain the instructed words?

The subjects were also divided in answering this question regarding retention of the words. The extremes were evidenced, with some subjects stating that they remembered 100%, whereas others said they remembered almost nothing. With few exceptions, all agreed that their retention was strictly short term in nature. A recurring comment was that an additional exposure to the words would have been helpful in committing the words to long-term memory. This is interesting from the standpoint that though 45 minutes had been allotted for the study of the vocabulary, the average time actually spent on task was roughly twelve minutes.

Two comments made by separate individuals suggest a potentially significant line of investigation. The first commented that "if I could remember them initially, then it was no problem," and another stated "some words seemed to be easy - I remembered them long term." Although this concept is certainly not new, the impact on programs for learning and retention is that the process must allow for students to select out the words that they know and concentrate on the words they find to be more difficult. As

previously mentioned, some degree of predictability regarding difficulty of lexis is afforded by current theory, but this study suggests a noticeable degree of individual variation.

Randomly Selected Case Studies

One case was selected randomly from each of the four groups for a more in-depth analysis. Narrowing the focus to specific individuals is a method often used in qualitative studies in order to delve below the more general type of examination that normally accompanies a quantitative study. This more involved study helped bring to light some thoughts and factors that might have otherwise not been noticed, or might have received less emphasis.

Case #1

This case was drawn at random from the group that received instruction in the non-target words and also had no assistance from the on-line dictionary during the recall protocols. Specifically, this case reflects Subject #25 (ID: GWI12153). The subject was able to glean and remember the meaning for several of the target words. He received full credit for two words, a partial understanding of a third word, and familiarization with a fourth. These meanings were gained from incidental learning, which took place during the recalls, that being the only exposure to the words. His guesses at words whose meanings were unknown displayed a common trait observed in a majority of the subjects' responses, the tendency to use the outward form and match it against an English word in an attempt to find the definition. Examples are that *Raetsel* (puzzle) was thought to be rattle, *unnoetig* (unnecessary) was defined as unnoticeable,

and *Gelegenheit* (opportunity) was thought to have something to do with temperature. This type of aid was unavailable for the words for which credit was given, so an assumption can be made that the meanings were actually derived, though the subject did not believe that he knew the meanings of the words. This was unusual, normally when credit was given the subjects indicated that they had some knowledge of the credited words. The immediate level of knowledge score was 9, compared with a delayed score of 5. Understandably, the subject had forgotten the meaning of one of the words, but interestingly he received partial credit for a word not previously credited.

The measure of response time was an average of 4.69 seconds for the immediate test, faster than the group average of 5.75 seconds, and 6.27 seconds for the delayed test, slower than the 5.87 mean achieved by the group. The inconsistency of the response times for this individual calls into question the efficacy of using such response times as measures of automaticity. Although seen as a separate measure of lexical knowledge, rapid response times should, in general, be related to higher levels of vocabulary knowledge. This is not the case with this individual who has demonstrated a very poor level of knowledge concerning the vocabulary in question. The fact that his response times slowed on the delayed test is in agreement with theoretical predictions. The size of the change, however, is quite large and places him well above the group mean, whereas the subject was well below the group times on the immediate test.

The total recall score for this individual for all three articles was 109, considerably higher than the group average of

89.12. Noteworthy is that the subject had one of the top overall recall scores for the travel article.

In answer to the questions, the subject stated that he "enjoyed participating in it, but I wish I knew what its aims were." He voiced uncertainty in terms of the quality and direction of the computer programs but believed that the words learned were somewhat helpful in the in deriving the meaning of the written passages.

Case #2

This case was drawn from the condition where the subjects were instructed in the target words but received no access to the dictionary during the reading of the passages. The case represents Subject #34 (ID: GTR19991). This subject displayed an excellent recall of the definitions of the words to which she had been exposed. The raters gave her full credit for thirteen out of eighteen words with five words being rated as unknown. Those words that she could not recall she still recognized having seen before. She had a total score of 44, which was quite high compared with the comparison group mean of 32.04. The delayed score was still quite high with a score of 34 as compared to the group mean of 23.86. The degree of reduction in level of knowledge seems to parallel the pattern of the group, which indicated approximately an eight point decrease. The residual level is still quite high and matches her own assessment of her ability to retain the words.

The immediate response time was 4.36 versus the group average of 5.79, and her delayed score of 6.73 was well above the average of 5.35. Once again, the subject undergoes a tremendous shift in

response time despite her level of knowledge showing a smaller decline.

The total recall score was also above the group average of 84.20 at 103. This subject seems to have been able to make good use of the learned material in getting the gist of the article. In addition, as witnessed in the paragraph below, she seems have been motivated to truly applying herself to the task.

This subject felt that the study was a good one, that the computerized instruction had helped her to learn the words well. She was surprised at how well she retained the words, and believed that the learned words were of assistance in deciphering the articles. In terms of difficulty -- "It was difficult but it made me really use the German skills that I have."

Case #3

This case was drawn at random from the group that received instruction in non-targeted words and had lexical access during the recall protocols. The case in question deals with Subject #72 (ID: GPA12600).

The level of knowledge score for this individual was rather low despite having lexical access during the experiment. None of his definitions were judged as full credit by the raters, four received partial credit and the remainder of the points came from familiarity. Further investigation showed that the subject made very few references to the dictionary function during the recall process. All told, he looked up only 22 words across all three protocols. Only one of the words for which he received partial credit was looked up, implying that the other meanings were either

gathered incidentally or derived in some other manner. Immediate word knowledge was scored a ten, slightly below the group average of 11.52. Delayed knowledge was rated a 7, well below the average of 11.68.

The time response of this individual is largely problematic in as much as many of his response times exceeded the twenty second limitation. This subject was one of the worst examples of distraction from the task going over the time limit nine times. These excessive times were capped at 20 seconds, with a resulting average time of 12.42 seconds versus the group norm of 7.30 seconds. This problem, though exaggerated in this circumstance, once again draws attention to the assumption of response time. Obviously, some additional controls are necessary to insure that response times are reflective of consideration about word knowledge and not some outside distraction. The delayed test for this individual had no instances of going over the limit with a resultant average time of 7.42 seconds. This fit closely with the group delayed mean of 7.19 seconds.

The subject's recall score of 97 closely reflected the group average of 102. The subject seemed to spend a great deal of time on the recalls without doing very much. As already mentioned, few words were referenced and the length of the recalls was quite short. These factors, in conjunction with the numerous times that he exceeded the time limit on the automaticity measure, suggest that this individual appears to be somewhat easily distracted from the task at hand.

Despite his poor performance, he enjoyed the study. He wrote that he actually preferred this interactive computer process to

learning from an instructor, citing that "I do not feel stupid for asking the computer for a word I feel I should know." He felt the study was too difficult, well above his level despite the fact that he is an intermediate level student. He repeats his comfort interacting with "an indifferent, impersonal machine." He states that he "does not have a knack for remembering things" and was unable to remember learned words for much more than twelve hours.

Case #4

This case was drawn at random from the group that received instruction in both the targeted vocabulary as well as access to the on-line dictionary during the recall protocols. Specifically, the responses of Subject #77 (ID: GCO18686) were examined.

The word knowledge for this individual was quite good with a total score of 38 points, above the group average of 32.40. The delayed word knowledge of 23, on the other hand, was below the average of 25.5. This subject, though learning the material well initially, exhibited more than the usual amount of forgetting over the two week period between the immediate and delayed tests.

In terms of the automaticity measure, this subject exhibited very consistent response times. His average response times of 6.5 seconds and 6.69 seconds (delayed) were only slightly higher than the group response times of 6.21 and 6.06 (delayed).

The subject's recall score of 106 was higher than the group average of 91.60. In analyzing the information gathered during the recall more closely, it becomes apparent that this subject put good effort into attempting to understand the text. He spent an average of 11 minutes and 30 seconds on each protocol (out of a maximum

allowable of 15 minutes), and looked up 54 words across all three protocols.

The subject's assessment of his own learning and retention were good. He correctly states that the "vocabulary was easily learned, but I didn't retain it very well". This fits well with his level of knowledge scores, which were quite high initially, but then dropped below the average on the delayed test. He also echoes thoughts about the difficulty of the passages: "It was difficult, almost to the point where I stopped trying." When queried about this method of learning vocabulary, the subject was non-committal. He qualified his statement in the following way, "Reviewing is a necessity if the vocabulary program is to be effective. Not just reviewing the same day, but on separate occasions." This theme came up on other responses as well, and fits with accepted theory, particularly that of Pimsleur (1967), who proposed and strongly supports the concept of a learning and reinforcement schedule.

Discussion

Level of Word Knowledge

The most significant result pertaining to word knowledge, and numerically the most significant of the study, was the enormous impact of prior instruction on subsequent word knowledge. Those subjects who had been instructed in the definitions of the target vocabulary scored well above the non-focus groups. This superiority, in and of itself, is perhaps not too surprising. One might expect that students who had been exposed to definitions should be more able to provide those definitions when tested. It is

the degree of difference, as well as the fact that even the delayed scores of the focus group were significantly above all scores by the non-focus group, that draw attention. The MANCOVA yielded an $F(1,99) = 249.71$ which translates to a $p = .000$. It had been thought that the advantage of instruction would be offset in the other groups to some degree by lexical access and the learning of definitions through contextual clues.

Although lexical access did not initially prove to be significant at the .05 level ($p = .107$), subsequent analysis of the scores of the groups not instructed in the target words indicated a significant advantage in level of word knowledge. This interaction between instruction and lexical had been insignificant in the initial analysis, most probably because the effects of instruction on the targeted words was so overwhelming. The idea that word instruction, subsequently reinforced through lexical access, might bolster overall word knowledge above that from instruction alone did not turn out to be the case.

Part of the problem in determining the effect of this on-line access is that the usage was highly variable in nature, with some subjects looking up a considerable number of words and others relatively few.

Recall Protocols

Both variables had a non-significant impact on the overall recall protocols. Of the two variables, however, lexical access did provide the higher significance ($p = .123$). Despite the failure to achieve statistical significance at the .05 level, this is another instance where the potential advantage should not be ignored. As

mentioned in the previous section, actual usage of the on-line definitions was highly variable, so firm conclusions as to its effect are somewhat problematic.

The distinction between focus and non-focus groups, or lack thereof, was not surprising. The main difference between the words was that the non-focus group words were potentially known to the students prior to the experiment and generally deemed not as critical (by this researcher) to the overall interpretation of the text. Otherwise, the words for both groups were all derived from the recall texts. Whereas the overall lack of significance ($p = .238$) was not completely unanticipated, the fact that the advantage fell to the non-focus group was unexpected. There was also no significant interaction between groups and lexical access.

The results from this section serve to support the idea that, though the connection between vocabulary and reading comprehension exists, the exact nature of the relationship is complex and dependent upon a number of variables. Specifically, the difficulty of the recalls and the relative density of unknown words made it hard to achieve significant improvements in overall recall scores. The difficulty of the texts can be attributed to some degree to the fact that authentic articles were utilized. This reflects the current push in the language teaching field towards ever greater utilization of these types of *authentic* materials. Had the texts been pedagogically structured with fewer unknown words, the impact of instruction or lexical access might well have been more readily apparent.

Automaticity

The sole significant finding for automaticity was that those without lexical access had significantly faster response times than those with lexical access, 5.77 seconds versus 6.75 seconds, with a resultant $p = .021$. In comparing the focus group versus the non-focus group, the focus group had the faster response (6.00 seconds vs 6.53 seconds), but the difference proved to be non-significant. The interaction also failed to reach significance.

The fact that those who had been instructed had faster response times is in agreement with the overall concept of automaticity as put forward here, that is, that those with a better overall concept or knowledge of the word should be able to access that knowledge more rapidly. Of greater interest, however, is the fact that those without lexical access scored significantly quicker response times than those subjects with lexical access. This is contrary to expectations in as much as one might reasonably expect those with lexical access to have at least a slightly better knowledge of the target vocabulary than those without such access.

The measure of automaticity was the most problematic area of the study. In addition to the inconsistency cited above, several other concerns were evidenced. First, there were the statistical outliers, previously mentioned, who had excessive times that were reduced to twenty seconds. Even with those corrections, however, it is likely that the overall impact of those subjects negatively affected the validity and reliability of the automaticity scores. Second, the overall pattern of response times is erratic and inconsistent among individuals, yet when examined by groups showed little deviation from the overall mean. Lastly, the delayed scores

exhibited faster response times than the immediate scores. This would also be contrary to expectations if the measures were working as desired, because if some degree of knowledge is lost one would also await a slight loss in automaticity.

It seems clear that variables other than automaticity came into play and that they affected the response times of the students. One factor was attention to the task, which was not always as sharp as it should have been. Another factor seemed to be what might be titled a *pattern of expectation*. That is, that those students who had little or no knowledge of the words came to expect and anticipate that their response to each word would probably be that it was "Unknown." In contrast, those who had some sort of exposure might be expected to have to wrestle with each word at least slightly. The anecdotal evidence to this *pattern of expectation* is that some of the subjects with low knowledge scores had extremely rapid response times. This pattern might also explain why the delayed scores indicated greater automaticity than the immediate scores.

Reading Time

An investigation of time spent reading the recalls was made after the fact, and revealed that those who had lexical access spent approximately 43% more time on task than those students who had no access to the on-line definitions. This figure is in complete agreement with prior research, which generally places the increase in reading time due to dictionary access at between 40% and 50%.

Qualitative Aspects of the Study

The general impression was that the study and the associated computer programs were well organized, and that the process ran smoothly. Although it might be an overstatement to say that the cadets enjoyed taking part, they, by and large, found it interesting and did not regret being involved in the study. As has been the case in virtually all of the recent research, the students were completely comfortable interacting with computers during the study.

Specifically, the cadets seemed to appreciate the computer program that instructed them in the definitions. This program worked them through several cycles of exposure, and then let them proceed at their own pace. The instruction of vocabulary seems to be something that is particularly well suited for the computer. A theme evidenced repeatedly throughout the comments was that the instruction would have been enhanced had there been more opportunities for exposure to the words (more cycles at different times). Given that most of the subjects utilized only a portion of the 45 minutes available to study the vocabulary, it seems that concentrated study needs cyclical reinforcement. The cadets were not as enthusiastic about the evaluation programs, though from the written responses, it was apparent that at least some of the negative feelings came from the degree of difficulty of the passages and/or the lack of knowledge of the vocabulary.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Overview of the Study

The purpose of the study was to investigate whether there were benefits to be derived from the systematic instruction of vocabulary above and beyond those available from either simple exposure to the words in context, normally referred to as incidental learning, or exposure combined with lexical access. One hundred and thirty college level beginning and intermediate German students were randomly placed into one of four different groups. These groups were defined by two variables: on-line dictionary access or no access and whether or not they received instruction in the target vocabulary. One hundred subjects were randomly selected for the final analysis.

A vocabulary checklist test was administered to insure that none of the subjects had prior knowledge of the target words. The students were also familiarized with the procedure for recall protocols, as well as the computer programs that they would be using.

The first day of the process was familiarization with the computer programs. The second day of the testing cycle was

computerized vocabulary instruction. Half of the subjects learned the definitions for the target vocabulary, and the remainder received instruction in non-target vocabulary derived from one of the protocols. On the third day, all the subjects viewed three passages on the computer and were asked to provide recalls. Again, 50% of the subjects had access to on-line dictionaries during these recalls, and the remainder had no assistance. The fourth and final day of the testing cycle was a supply definition test of the target vocabulary. The subjects were also asked questions about several qualitative aspects of the study. A delayed supply definition test was given two weeks later.

Once the data had been averaged and sorted, the necessary analyses were conducted and the results tabulated. Qualitative aspects were also examined in the hopes that a deeper insight might be provided.

Summary of Findings and Conclusions

Finding #1:

The strongest finding of the study was that those students who were instructed in the targeted vocabulary were better able to produce an acceptable definition when called upon. The significance ($p < .001$) indicates a very powerful effect for instruction on subsequent word knowledge. Even the delayed scores by the focus group were well above the immediate scores by those subjects who were not instructed.

These findings are in keeping with the results of the meta-analyses conducted by Stahl and Fairbanks (1986) and Mezynski

(1983). These analyses indicated positive results for all forms of vocabulary instruction, and statistically significant results for many of them. More recently, Coady's (1993) study utilizing computerized vocabulary training resulted in findings largely supporting the favorable impact of direct vocabulary instruction. Coady used more programmatic instruction of many words over a longer period of time, but the outcomes were very positive in terms of the effectiveness of direct instruction. Specifically, Coady demonstrated that computerized instruction could give significant advantage in terms of subsequent vocabulary knowledge ($p < .01$)

Another notable point, mentioned above, is the resilience of the instructed words in memory. The overall level of knowledge for the instructed students dropped from a score of 32.22 to 24.68, or a drop of 23%. This drop over the course of two weeks, despite being statistically significant, is quite promising in as much as it is less than prior research indicates as the normal amount of forgetting. Even this delayed score is significantly higher than the immediate score of 9.38 for the subjects not instructed in the target words.

Finding #2

Another finding worthy of attention is the short period of time that the subjects utilized in studying the words. In contrast to many previous studies where instruction time was forced upon students, and was often quite lengthy in terms of time spent per word, this study allowed the students to select their own pace in reviewing the words. Although they had up to 45 minutes to use the vocabulary instruction program, most students were done by roughly

twelve minutes, with very few exceeding fifteen minutes. (These times are rough estimates by the researcher, the timing function of the software did not function properly). This calculates, on average, to less than a minute spent with each word. Once again, this pace of learning for adult learners agrees with much of the extant research wherein learners are allowed to choose the pace of their learning. In a study by Wheatley, Muller, & Miller (1993), they found that their students spent an average of one minute on each word, very close to the time spent by learners in the current study.

Finding #3:

The availability of an on-line dictionary, though providing a higher overall level of knowledge scores, failed to register as statistically significant in the original MANCOVA. Upon further analysis, however, it was demonstrated that if one isolates the groups that were not instructed in the target words, the effect of lexical access is dramatic ($p = .004$). This interaction will be more fully discussed under finding #6. This benefit of lexical access is consistent with prior research. Knight (1992) found that those subjects with dictionary access achieved a mean score of 4.95 while those without access had a mean score of 1.72 ($p < .001$). There are other striking similarities when one compares the current study with the high verbal population from Knight's study. The no dictionary group in Knight's study was able to learn 7% of the vocabulary, whereas the group with dictionary access learned 21%. In this study, the group without lexical access averaged 13% of the vocabulary knowledge points available, while the group with lexical

access averaged 23%. Both studies indicate an approximate two to three-fold increase of the vocabulary knowledge with the addition of lexical access. Luppesu and Day's research also supports this claim. In Luppesu and Day (1993), they found that the mean measures of vocabulary knowledge for the group using dictionaries was about 50% greater than those of the group without dictionaries.

One factor that may have detracted from an even greater increase in performance tied to lexical access is that the method used in the study for accessing word definitions was less convenient than the manner the cadets typically use. If they desired to see a definition during the protocols, the cadets were required to scroll through a list to select the appropriate word. They could then click on the word to receive a brief definition. This method, though close in nature to actual dictionary use, was more awkward than the cadet's normal practice of clicking on the word in the text to get a definition. This was, in all likelihood, largely responsible for the varying degree of words looked up, with some subjects making much greater use of the lexical access feature than other students did.

In order to check for the possible impact of number of words looked up and vocabulary knowledge an analysis was conducted of the correlations between total number of words checked and knowledge scores, as well as between number of target words looked up and knowledge scores. The resulting correlations were quite low (total words: .131; target words: -.057) suggesting that the situation cannot be reduced to simply the number of words examined.

Finding 4:

The recall protocol scores were largely unaffected by either variable. Lexical access, however, did appear to be helpful at just slightly below the significant level ($p = .123$). This is in keeping with the research to date, which generally notes some degree of advantage to protocol scores with lexical access. Many of the results lay either just above or just below the point of statistical significance. Two separate meta-analyses, Mezynski (1983) and Stahl and Fairbanks (1986), examined past studies on the effect of vocabulary instruction and subsequent text comprehension. Both analyses concluded that those studies that had shown significant improvement in reading comprehension utilized instruction that provided repeated exposures to the words, presented both definitional and contextual information, and encouraged active processing. When taken as a whole, the studies to date suggest that, "in order to affect comprehension, instruction may need to go beyond simply establishing accuracy of associations between words and definitions" (Beck and McKeown, 1991, page 806).

In contrast, the research of Knight (1992), despite providing only associative connections, suggested that lexical access greatly enhanced subsequent comprehension ($p < .001$). One mitigating factor in the current study that may help to explain the lack of significance is the fact that all groups had either instruction on some of the words or lexical access. Had there been groups that had no prior exposure to any of the words, as was the case in the Knight experiment, it is likely that there would have been greater improvements due to lexical access, perhaps adequate to lead to significance. Overall, the results of the study are consistent with

prior research, and suggest the even associative instruction provides some benefit in subsequent comprehension, though chances of significant improvement increases with greater exposure in varied contexts and activities requiring deeper processing.

The fact the non-focus group outscored the focus group, upon reflection, is not that surprising. Both sets of words were selected from the texts as being useful in accessing the gist of the materials. In the case of the focus group, the words selected were restricted to the words not known by any of the subjects of the research. Although the words for the focus group were selected more deliberately, the words chosen for the non-focus group appear, in the end, to have been more helpful to the overall recalls.

Finding #5:

The measures of automaticity, acknowledged in advance as the most problematic aspect of the study, provided a confusing mixture of results. The sole significant finding was that those without lexical access had significantly faster response times than those without lexical access ($p = .021$). Because of a number of factors, it is highly questionable whether or not the scores can be properly relied upon to answer the original questions regarding automaticity.

Specifically, the following problem areas lead one to ask about the validity of using the response times from this research as measures of automaticity. First, there exists the problem of the statistical outliers, those individuals who had response times so lengthy that they required correction. Even after these excess times had been capped at twenty seconds, the cumulative times for some of these individuals skewed the time results. Another problem

was the erratic nature of the results, which presented many scores that run counter to the theory of automaticity that is being examined. By way of example, as mentioned above, those subjects without lexical access indicated a faster response than those subjects with lexical access, and almost all the delayed scores were faster than the immediate. Both of these results are contrary to the theory that greater (or more recent) exposure should decrease response times. A final problem area, to some extent exacerbated by the first, is the generally long response times when compared with Gahren's study (1993). Gahren had a mean response time across all categories of 2.59 seconds compared with this study's average of 6.19 seconds. The question then is why these measures did not appear to function as desired in the current research.

In Gahren (1993), upon which the measures of automaticity used in this experiment were based, the researcher was dealing with a select group of advanced language learners who had greater long-term exposure to many of the words. These factors, in combination with others, such as a higher level of motivation and the ability to test themselves at their own convenience, possibly served to ensure more appropriate response times in Gahren's study.

Finding #6:

The original MANCOVA exhibited no significant interactions, but subsequent analysis showed a significant effect for lexical access in the non-focus groups. Previously discussed on several occasions, there was, in fact, interaction between the factors of group and lexical access on the variable of knowledge, but that this was masked by the tremendous influence of instruction on the

targeted vocabulary. Further impeding the ability of the MANCOVA to detect significant interactions was the relatively low observed power for all three of the univariate interaction analyses. For the dependent variable of knowledge mentioned above, the observed power was .275, meaning that there was roughly a 70% chance of missing a significant interaction, even if it was actually present. The two other interactions for response times and recall scores had even lower observed powers, .262 and .068 respectively, indicating an even greater chance of missing significant interactions. It should be noted that in Figures 3, 4 and 5, which graph the interactions, the common tendency is for the lines to converge. Perhaps with a better design and stronger power, existing interactions would stand a greater chance of being detected.

It was thought that the interaction of prior instruction and subsequent exposure to the words in context might prove to be symbiotic. The results showed that this seemed not to be the case, with all of the analyses remaining well removed from significance. It had been theorized that through a greater number of exposures, in particular exposure in context following direct instruction in definitions might provide fertile ground for greater gains in all three dependent variables. These expectations were suggested by the research of McKeown (1993) in which she forwarded the belief that prior instruction provides an "initiating event," or a rough acquaintance with the word. This same line of thought was evident in Graves and Penn (1986) wherein they suggest that a degree of knowledge of certain words might prevent the learner from stumbling over those words, and allow greater concentration on the remainder of the text.

The lack of interaction may well be an accurate reflection of the state of affairs, but several additional mitigating factors must be considered. The general difficulty of the passage, cited often, is one concern. Another element is the relative density of unknown words in the text, which is, in this case, fairly high. These two factors combine to make it somewhat difficult to use contextual clues to discern word meaning.

Finding #7:

The verbal skills of these subjects had virtually no impact on how they responded to variables of instruction and lexical access. The MANCOVA suggests an almost absolute lack of significance for this factor. For those subjects with ACT scores, the reading score was then examined against the recalls, whereas the English (vocabulary score) was run against word knowledge. In every case, the results proved insignificant.

The most likely explanation for these results is attenuation. Despite differences in scores, the students as a whole, when compared against previous research, would classify as high to very high verbal ability. Thus, although individual cases may indicate superior performance due to ability, this was not reflected for the entire group as might have been the case had there been the range of verbal abilities reflected in previous research.

Finding #8:

Reading time for those students with lexical access was 43% greater than for those subjects without lexical access. This is in keeping with prior research, which consistently places the time

increase in the 40% to 50% range. Specifically, Knight (92) found that her high verbal group required 41% more time, and the low verbal group needed 44% more time.

Finding #9:

Students were very comfortable interacting in a computer environment. The subjects seem to enjoy the control the computer interface afforded allowing them to proceed at their own pace. Several students also commented on the fact that there was a certain amount of comfort in the fact that the computers were non-judgmental. Again, this affinity for the computer environment only confirms what much previous research has already shown, specifically that such computerized instruction enhances student achievement, involvement and motivation (Wheatley, Muller, & Miller, 1993). Notably, the computerized instruction used by Coady (1993) in his first experiment proved so beneficial and popular that "it did not seem ethical to deny the students access to these materials," and the replication was carried out without a control group.

The factors favoring computers are perhaps more potent at the Air Force Academy than many other places. The students all own their own computers, which they are required to use for most assignments, and are intimately familiar with going on-line for necessary information and communication. The computerized language lab where the research took place is an environment with which they are completely familiar, in so far as they meet in the lab every other day.

Finding #10:

Many subjects cited the fact that some words seemed to be learned much more easily, and that those same words were more easily retained. These comments serve to highlight one of the factors that make computerized vocabulary instruction such a potentially powerful tool - namely the ability for the student to choose to spend more time on those words they find difficult, and to control the degree of exposure to the words

Finding #11:

The instruction of vocabulary seems particularly well suited to the computer. The most positive comments made about the research had to do with the vocabulary instruction program. Although this program was little more than an elementary flash card program, the students were virtually unanimous in voicing their favor. As mentioned, the response to Coady's program, which was more elaborate (in the sense that it was more than mere association), as well as more long-term, was even more positive.

The allure of such instruction is readily apparent. The students have complete control over their learning in the sense that they can choose which words need more work, and also set their own pace for progressing through the words. This study has also demonstrated that such instruction can produce noticeable results with relatively little time expenditure -- in this case an average of less than one minute per word. Clearly, more elaborate programming requiring deeper processing and more targeted feedback would likely yield greater improvement, but the point to be made is

that even basic associative word instruction is well received and capable of providing significant results.

Finding #12:

When forced to guess at the meaning of an unknown word the students normally attempted to match the outward form with a known English word. They would guess that *Rätsel* (puzzle) meant rattle or that *Gelegenheit* (opportunity) had something to with temperature. The fact that the cadets would seek to make these types of connections is both intuitive, and in agreement with the factors influencing the difficulty of learning new words, a key factor being similarity to known words in the student's L1 lexis.

Finding #13:

Subjects were generally well aware of their level of word knowledge. The instances of students believing they knew a word and supplying an incorrect meaning, or thinking they did not know a word and arriving at a correct definition were virtually non-existent. There were some cases where subjects believed they had partial knowledge that proved not to be the case, but even those instances were few and far between.

Finding #14:

The computerized recall protocol procedure worked well and appears to have resulted in a good overall assessment of the subjects' reading comprehension. As mentioned earlier, many of the cadets thought the recall process was a good one, and even those

subjects who did not like the process believed that it would accurately reflect their level of comprehension.

As a rough check, an examination was made between the means of the scores produced by this current test group versus the scores produced by the level one subjects in Dr. Heinz's study. The level one group included a group of students who were more advanced than the subjects in the current study, but that group received no prior instruction or lexical access. One might expect these two groups to produce similar scores on the recalls, which, as seen below in Table 9, was precisely the case.

	<u>Current Study</u>	<u>Heinz Level 1</u>
Batman Article	35.39	36.32
Bernhardt Letter	27.92	27.87
Travel Article	29.56	33.28

Table 9

A Comparison of the Raw Protocol Scores between the Current Study
and the Level One Subjects in the Heinz Study

Conclusions

The study has demonstrated that direct vocabulary instruction, even in its most basic form, can further vocabulary learning above the levels available through either pure incidental learning, or incidental learning and lexical access in combination. The degree to which vocabulary instruction can improve the level of vocabulary knowledge will vary, but this study, along with some of the more recent research, helps illustrate the importance of returning the instruction of vocabulary to its proper place in the foreign language curricula. In particular, good computerized instruction programs can provide students with control over the selection and pacing of their learning, ample "depth of processing," and a means by which to assess their vocabulary knowledge and progress. Computerized instruction can accomplish all of the above and appears to be able to do so in an efficient manner, thereby dispelling some of the claims that direct instruction is, of necessity, too time intensive to be useful.

In the absence of instruction, the addition of lexical access, though increasing reading time by roughly half, is capable of bringing about a significant improvement in the level of vocabulary knowledge. Lexical access also assisted the performance of subjects on subsequent reading comprehension tasks, but this increase remained shy of statistical significance. These findings concerning lexical access provide support to many of the conclusions arrived at by Knight (1992).

The issue of automaticity, always somewhat problematic, remains so. The response times provided by this study were so diverse in nature, and differed to such an extent from previous

research, as well as from theoretical expectations, that one is precluded from drawing any firm conclusions. In fact, examining the factors that made the issue so difficult for this study begs the question as to what degree such factors may have impacted, albeit to a much lesser degree, prior studies.

The use of computerized recall protocols worked smoothly and efficiently, and a comparison of the results of this study with the results from an equivalent group in Dr. Heinz's original study speak to the reliability of this procedure. Although the program may need some refinements, the current study lends support to the viability of computerized recalls, and has once again demonstrated the practicality of using the procedure on large groups of students.

In keeping with most of the recent research, the students were comfortable interacting with the programs, as well as with the general computer environment. Many were enamored with the vocabulary instruction program, despite the fact that it was extremely rudimentary. In terms of learning the vocabulary, the students found that some vocabulary were easier to learn and remember than other words. When a meaning was unknown, the students almost always attempted to match the outward form to the closest English equivalent. Lastly, the cadets were capable of accurately determining their own level of word knowledge.

Pedagogical Implications

The pedagogical implications are clear, the computer is finally coming into its' own as a tool in the instruction of vocabulary. Even the most basic of flash-card type programs is capable of providing significant gains in vocabulary knowledge, in

addition to being well received by the students. More elaborate programs that provide a number of different exposures to words in varying contexts, allowing for greater depth of processing, should prove to be even more powerful. There are currently several efforts underway at the Air Force Academy to put such programs on the intranet. The German syllabi are currently on-line, and in a recent survey (not related to this study) the students indicated a strong desire to have access to a vocabulary program that would allow them to learn the words and evaluate their knowledge. The primary effort at the moment would allow instructors to enter vocabulary into databases and then to put the programs on the web. This programming should be complete by the summer.

This study also supports the idea of lexical access whenever possible. There existed a belief in the field of foreign language education that students should discern meaning from context. This approach has been problematic, particularly from the standpoint that the student is unable to ascertain whether or not his "guess" is correct. At the Academy, the students have full lexical access when they are viewing video materials in the Language Learning Center. They are, however, encouraged to try and derive meaning from context before resorting to looking up words. The next pedagogical step is to place reading and listening comprehension tasks on-line, or on CD, that also provide them the capability for word look-up.

Dr. Heinz's procedure for testing reading comprehension is laden with potential. What it would require for wider implementation is a front-end template that would allow instructors to enter text, the values of the propositions, and to establish

links within the text. This process is currently very labor and programming intensive.

There appear to be two primary advantages to computerized instruction that apply specifically to vocabulary instruction, but also, in a more general way, to all instruction. The first advantage is that the student has control over his own learning. Given the diverse backgrounds and abilities in any foreign language learning population, it is necessary to provide different paths to higher-level vocabulary knowledge. The second advantage, as yet to be harnessed, is the assessment and feedback the computer can provide to both the student and instructor.

Recommendations

Several aspects of the current study require further research and elaboration. Perhaps most importantly, the results require substantiation in the form of future studies that alter some of the variables attendant to this research. The words selected, the density of the unknown words within a given text, and the context in which these words are viewed may all have considerable impact upon the nature of the results. If, after varying these factors, the results remain consistent with those found in this study, then firmer conclusions may be possible.

A point of weakness in the current study is the observed power for the covariant of verbal skill and the interactions. Future research should be designed to provide greater power when examining these aspects.

Another requirement for future will be the examination of a wider array of resultant data about the level of word knowledge.

This study used only a supply definition format. Using multiple choice and other identification tasks would lend depth to the data. In past research, such additional dependent variables have tended to mirror the supply definition results, but generally indicate higher overall levels of word knowledge.

Additional studies are also required to determine if the pattern of results found change when tested across the full range of verbal ability. The restriction to high verbal ability populations is an admitted limitation of this study.

Lastly, this research should ideally be integrated into the student's normal flow of instruction. The evaluation tasks should be an integrated segment of the curricula, and the results tracked over a longer period. Examining the results of computer instruction when imbedded in regular class activities would go far in validating or rejecting the results as they occur in isolation.

Limitations

The following limitations must be recognized in evaluating the results of the study:

1. The subjects in the current study are an extremely homogeneous group of top-level high school graduates. They are generally possessed of high verbal skills and are also intimately familiar with computers. These factors may serve to limit the degree to which one can generalize the results.
2. No advanced level German students were involved in the study.
3. Only one measure of vocabulary knowledge was utilized.

4. Although most subjects seemed to take their tasks seriously, observational evidence (specifically some of the response times) indicate that some students did not give the process their full attention.
5. The computer programs were rudimentary, both in appearance and function, due to the limited programming skill of the researcher. Better and more elaborate programs may well impact the results achieved.
6. The research, though taking place in the cadets' normal language environment, was not derived from their regular materials. The knowledge that they were part of a study, as well as the isolation from the normal flow of instruction, may have had some impact on the results. Ideally, these programs would evaluate the cadets performance within the natural context of a language course.
7. The observed power in the MANCOVA for the interactions and the covariance were low.

APPENDIX A
RECALL TEXTS AND TRANSLATIONS

Batman -- Aufstand im Kinderzimmer

"Er soll ja besser sein als der erste", sagt die 14jährige Maria, die mit ihrer Freundin vor dem Loews-Kino am Broadway ansteht und nur millimeterweise vorrückt in der Schlange, die sich vor der Kasse gebildet hat. Obwohl sie an diesem Wochenende mithelfen wird, einen Rekord zu brechen, klingt sie nicht gerade begeistert. Es klingt wie: mitmachen und absitzen. Hier wird kein Fest angesteuert, sondern eine Hypnose.

Für Maria steht der Termin seit Wochen fest, auf einem Plakat, drei Stockwerke hoch über Times Square, schwarz auf gelb: "Batman kehrt zurück". Der Film.

Batman, die Geldmaschine, spuckt wieder. Bereits im ersten Anlauf vor zwei Jahren hatte der Mann mit der Fledermausmaske Platz sechs in der Liste der besten Filme aller Zeit geschafft. Nun spielte die Fortsetzung schon am ersten Wochenende 46,5 Millionen Dollar ein. Weltrekord.

Alle amerikanische Kinder seit 1939 sind mit Batman groß geworden. Der Fledermaustyp mit der tragischen Kindheit ist ein schüchterner einsamer Mensch, der sich verwandelt, wenn er sich die Maske überstülpt. Batman, tagsüber braver Bürger, ist der Lotse durch die Schattenwelt.

TRANSLATION: BATMAN ARTICLE

Batman - Revolt in the Kids' Room

"It is supposed to be better than the first," says 14 year-old Maria, who, with her friend, stands in front of the Loews theater on Broadway, and only moves forward by millimeters in the line that has formed in front of the cashier. Even though on this weekend she will help to break a record, she does not sound too enthusiastic. It sounds like "participate and sit it out." No festival is being celebrated here, rather a hypnosis.

For Maria the date was fixed for weeks, on a placard three stories high above Times Square, black on yellow: "Batman Returns." The film.

Batman, the money machine spits again. Already in the first run two years ago did the man in the batmask achieve sixth place in the list of the best movies of all time. Now the continuation has already produced \$46.5 million on the first weekend.

All American children since 1939 have grown up with Batman. The Bat-figure with the tragic childhood is a shy, lonely person who transforms himself when he dons the batmask. Batman, by day good citizen, is the pilot through the shadow world.

Prof. Dr. E Buchter-Bernhardt

227 Arps Hall

1945 N. High Street

The Ohio State University

Columbus, OH 43210

U S A

Liebe Frau Buchter-Bernhardt,

in der Anlage finden Sie die Dinge, die ich Ihnen in Newark
versprochen habe. Wenn Sie an dem einen odern andern von uns
interessiert sein sollten, können wir dies gerne kopieren.

Unnötig zu sagen, daß es großen Spaß gemacht hat, Sie kennenzulernen,
mit Ihnen zu plaudern und gemeinsame Interessen und Bekannte zu
entdecken.

Ob Sie so nett sein könnten, mir bei Gelegenheit den Namen und die
Adresse Ihres Mitarbeiters, der jetzt in Virginia ist, mitzuteilen,
damit ich auch ihm die versprochenen Materialien schicken kann. Ich
vergaß, mir seine Adresse aufzuschreiben.

Mit den besten Grüßen und allen guten Wünschen bin ich

Ihr

Dr. H. Schwarz

TRANSLATION: BERNHARDT LETTER

Prof. Dr. E. Buchter-Bernhardt

227 Arps Hall

1945 N. High Street

The Ohio State University

Columbus, OH 43210

USA

Dear Frau Buchter-Bernhardt

In the enclosure you will find the things that I promised you in Newark. If you should be interested in one or the other from us, we can gladly copy that.

Needless to say, it was a lot of fun to meet you, chat with you, and discover common interests and acquaintances.

If you would be so kind, when you have an opportunity, to send me the names and addresses of your colleague who is now in Virginia, so that I can send him the materials that I promised him. I forgot to write his address down.

With the best greeting and good wishes, I am

Your,

Dr. H Schwarz

Auf Die Schnelle In Die Ferne -- Erst Packen Dann Buchen

So schnell kann es gehen: Am Dienstag letzter Woche dachte Peter Frisch noch darüber nach, ob er sich einen Trip nach Spanien leisten könnte. Am Donnerstag jettete er dann doch lieber nach San Franzisko. 895 Mark fürs Ticket nach Kalifornien und zurück -- dieses Angebot hatte den Münchner nicht lange zögern lassen. Muß man vielleicht mit einer Stewardess verlobt sein, um so billig um die halbe Welt zu jetten? Des Rätsels Lösung ist viel einfacher: Als den Münchner das Fernweh überkam, hatte er sich bei den Last-Minute-Büros umgehört. Bei der Tonband-Ansage von L'Tours wurde er fündig.

Noch rascher ging's beim Münchner Studenten Manfred Kanzler: er packte einfach Zahnbürste und Scheckbuch ein und fuhr zum Flughafen. Da hatte er noch keine Ahnung, wohin die Reise gehen sollte. Drei Stunden später saß er schon im Jet nach Eliat am Roten Meer -- für 498 Mark.

Für Verkäuferin Beate Baskos vom ABR-Last-Minute-Service am Flughafen ist das nichts Ungewöhnliches: Sie vermittelt jedes Wochenende Ferienglück gleich dutzendweise in letzter Minute. Der Schluß-Verkauf von Urlaubsreisen, vor drei Jahren noch fast unbekannt, erhebt jetzt den großen Boom.

TRANSLATION: TRAVEL ARTICLE

In a Hurry into the Distance - Pack First then Book

This is how fast it can happen: On Tuesday last week Peter Frisch was still thinking if he could afford a trip to Spain. On Thursday he flew, instead, to San Francisco. 895 Marks for a ticket to California and back -- the Munich student could not hesitate long. Does one perhaps have to be engaged to a Stewardess in order to fly so cheaply half-way around the world? This puzzle's solution is much simpler: As the man from Munich was overcome with a yearning to travel, he checked out the last-minute agencies. On the tape recorded messages of L'Tours he struck pay dirt.

It went even faster for the Munich student Manfred Kanzler: he simply packed a toothbrush and a checkbook and drove to the airport. There, he still had no idea where the trip would go to. Three hours later he already sat in a jet to Eliat on the Red Sea for 498 Marks. For the travel agent Beate Baskos of ABR Last Minute Service located at the airport, that is nothing unusual: she arranges dream vacations at the last minute by the dozen every weekend. The close out sale of travel packages, still unknown three years ago, has now risen to a great boom.

APPENDIX B
TABULATED DATA

Comments on Tabulated Data

Although the following table is fairly intuitive, several items require additional explanation:

Under delayed response time those numbers in brackets [] represent those subjects who took the delayed test at a slightly different time than the remainder of the cadets. In all cases these tests were administered within two days of the primary delayed test. The cells with no entries represent those subjects that were unable to take the delayed test.

Under the SAT scores, the scores with an asterisk represent conversions from the ACT.

Under the category of words accessed, the first number indicates the total number of words accessed and the number in parentheses represents the number of target words accessed.

Tabulated Data

Subject			1	2	3	4	5	6	7
Coded ID			GHE	GRO	GWO	GBE	GDI	GGR	GLA
			11486	19073	18961	17841	13842	13590	15958
Response times (immediate)			4.18	3.56	5.77	3.68	6.53	3.24	3.97
Response times (delayed)			[5.16]	5.96	5.51	4.77	6.52	4.58	5.3
Word knowledge (immediate)			12	2	9	2	6	0	0
Word knowledge (delayed)			[14]	5	12	0	7	0	12
Recall scores (raw)									
Batman article			46	48	30	20	34	38	25
Letter			48	43	11	0	5	9	16
Travel article			33	32	31	5	0	25	39
Totals			127	123	72	25	39	72	80
			42.33	41	24	8.333	13	24	26.67
SAT score			630	620	540	630	600	590	780
ACT english									
ACT reading									
Avg Reading Time (secs)			631	301	281	260	179	269	198
# Words accessed:									
Batman Article									
Letter									
Travel Article									
Total									
Total Target Words									

Tabulated Data

Subject			8	9	10	11	12	13	14
Coded ID			GSH	GGU	GHA	GNE	GPU	GSM	GST
			18664	19674	12595	14642	19602	15956	14599
Response times (immediate)			5.02	7.34	4.49	10.23	7.11	7.58	7.35
Response times (delayed)			2.14	5.97	7.36	12.25	3.71	[5.23]	6.75
Word knowledge (immediate)			7	9	3	10	6	11	9
Word knowledge (delayed)			1	10	6	2	3	[4]	10
Recall scores (raw)									
Batman article			37	64	36	36	30	21	10
Letter			29	22	22	19	43	6	22
Travel article			23	34	18	24	19	24	11
Totals			89	120	76	79	92	51	43
			29.67	40	25.33	26.33	30.67	17	14.33
SAT score			*550	490	530	550	610	*570	600
ACT english			24					25	
ACT reading			26					28	
Avg Reading Time (secs)			244	452	229	340	451	286	233
# Words accessed:									
Batman Article									
Letter									
Travel Article									
Total									
Total Target Words									

Tabulated Data

Subject			15	16	17	18	19	20	21
Coded ID			GTH	GAR	GCO	GIM	GJE	GKE	GLO
			11818	11579	12318	14313	15409	16422	12556
Response times (immediate)			5.33	7.31	3.87	13.07	5.19	7.64	2.95
Response times (delayed)			5.8	4.55	4.54	12.68	4.62	[5.60]	4.12
Word knowledge (immediate)			8	1	13	9	16	12	5
Word knowledge (delayed)			1	10	16	5	5	[18]	9
Recall scores (raw)									
Batman article			24	45	36	49	43	18	61
Letter			17	41	22	47	51	38	22
Travel article			17	33	34	56	54	28	19
Totals			58	119	92	152	148	84	102
			19.33	39.67	30.67	50.67	49.33	28	34
SAT score			670	*700	*610	630	*630	660	660
ACT english				31	27		28		
ACT reading				36	26		29		
Avg Reading Time (secs)			414	267	291	501	440	580	349
# Words accessed:									
Batman Article									
Letter									
Travel Article									
Total									
Total Target Words									

Tabulated Data

Subject			22	23	24	25	26	27	28
Coded ID			GBL	GCA	GCI	GWl	GIN	GME	GCO
			12023	18051	15611	12153	15785	15321	13550
Response times (immediate)			7.54	3.53	2.62	4.69	6.34	4.61	6.29
Response times (delayed)			7.41	2.9	5.46	6.27	6.17	5.32	4.95
Word knowledge (immediate)			15	0	7	9	41	17	27
Word knowledge (delayed)			9	0	11	5	31	17	14
Recall scores (raw)									
Batman article			64	8	12	34	33	32	35
Letter			40	5	24	21	20	12	30
Travel article			77	25	21	54	25	16	23
Totals			181	38	57	109	78	60	88
			60.33	12.67	19	36.33	26	20	29.33
SAT score			640	*520	530	620	*610	*610	690
ACT english				22			27	27	
ACT reading				21			27	26	
Avg Reading Time (secs)			325	198	181	296	454	383	294
# Words accessed:									
Batman Article									
Letter									
Travel Article									
Total									
Total Target Words									

Tabulated Data

Subject			29	30	31	32	33	34	35
Coded ID			GER	GLA	GPA	GFA	GSA	GTR	GZA
			14191	18925	18498	11585	11650	19991	11325
Response times (immediate)			5.72	3.72	4.43	3.79	7.17	4.36	2.74
Response times (delayed)			5.06	3.09	3.71	5.28	6.73	3.05	4.11
Word knowledge (immediate)			24	35	18	40	44	10	33
Word knowledge (delayed)			9	29	9	35	34	9	31
Recall scores (raw)									
Batman article			23	12	27	33	33	49	21
Letter			15	6	18	0	15	33	10
Travel article			29	20	32	11	23	21	9
Totals			67	38	77	44	71	103	40
			22.33	12.67	25.67	14.67	23.67	34.33	13.33
SAT score			660	690	560	*610	*630	600	590
ACT english						27	28		
ACT reading						26	31		
Avg Reading Time (secs)			192	76	540	400	409	270	179
# Words accessed:									
Batman Article									
Letter									
Travel Article									
Total									
Total Target Words									

Tabulated Data

Subject			36	37	38	39	40	41	42
Coded ID			GDI	GMA	GOT	GDA	GLA	GCO	GKI
			11976	17836	13779	16187	18631	11050	12189
Response times (immediate)			5.9	6.92	11.78	5.08	5.75	7.14	7.06
Response times (delayed)			3.9	6.51	6.47	[6.37]	4.66	6.59	10.07
Word knowledge (immediate)			30	29	33	33	34	33	24
Word knowledge (delayed)			20	24	19	[24]	24	29	16
Recall scores (raw)									
Batman article			35	24	45	29	38	48	54
Letter			15	23	21	19	25	39	25
Travel article			26	35	27	35	34	47	36
Totals			76	82	93	83	97	134	115
			25.33	27.33	31	27.67	32.33	44.67	38.33
SAT score			660	560	580	*630	600	600	*650
ACT english						28			29
ACT reading						33			27
Avg Reading Time (secs)			327	161	411	224	490	345	607
# Words accessed:									
Batman Article									
Letter									
Travel Article									
Total									
Total Target Words									

Tabulated Data

Subject			43	44	45	46	47	48	49
Coded ID			GLI	GMI	GKU	GSC	GSE	GAD	GEL
			19771	14648	11605	15293	17768	12057	14403
Response times (immediate)			8.08	4.69	4.75	5.88	3.76	4.63	7.13
Response times (delayed)			6.52	[10.59]	2.47	[3.63]	5.23	4.08	5.92
Word knowledge (immediate)			46	49	32	35	33	38	38
Word knowledge (delayed)			35	[43]	26	[14]	25	28	35
Recall scores (raw)									
Batman article			48	44	56	17	23	48	23
Letter			24	26	44	19	5	36	30
Travel article			42	42	26	18	20	29	50
Totals			114	112	126	54	48	113	103
			38	37.33	42	18	16	37.67	34.33
SAT score			620	610	*630	610	610	770	*570
ACT english					28				25
ACT reading					27				29
Avg Reading Time (secs)			402	525	560	132	317	395	482
# Words accessed:									
Batman Article									
Letter									
Travel Article									
Total									
Total Target Words									

Tabulated Data

Subject			50	51	52	53	54	55	56
Coded ID			GZE	GDO	GFE	GOR	GWA	GAS	GHA
			18703	19917	11569	17899	17437	15494	12607
Response times (immediate)			6.9	6.61	7.04	5.82	7.99	7.01	7.32
Response times (delayed)			7.85		7.71	6.96	6.73	14.35	5.54
Word knowledge (immediate)			25	7	13	12	13	5	9
Word knowledge (delayed)			20		15	15	11	6	14
Recall scores (raw)									
Batman article			33	29	47	50	51	26	16
Letter			45	37	48	48	43	23	11
Travel article			11	6	37	50	33	22	12
Totals			89	72	132	148	127	71	39
			29.67	24	44	49.33	42.33	23.67	13
SAT score			590	650	640	*610	580	*630	590
ACT english						27		28	
ACT reading						27		26	
Avg Reading Time (secs)			243	496	655	535	375		539
								350	
# Words accessed:									
Batman Article				29 (3)	38 (4)	13 (2)	11	4 (1)	2
Letter				24 (6)	32 (6)	8 (4)	8	16 (1)	10 (1)
Travel Article				3	28 (6)	8 (2)	9 (2)	20 (1)	5
Total				46	98	29	28	40	17
Total Target Words				9	16	8	2	3	1

Tabulated Data

Subject			57	58	59	60	61	62	63
Coded ID			GHO	GDR	GRA	GSC	GHE	GMA	GBR
			14041	15290	13779	16730	17212	19837	19631
Response times (immediate)			8.73	3.03	6	4.59	9.76	6.97	8.52
Response times (delayed)			4.86	2.6	10.07	[5.21]	9.87	4.28	7.06
Word knowledge (immediate)			6	0	11	8	7	10	9
Word knowledge (delayed)			4	3	8	[1]	6	7	14
Recall scores (raw)									
Batman article			34	40	24	34	40	55	36
Letter			4	18	30	25	21	44	20
Travel article			7	22	27	11	22	48	25
Totals			45	80	81	70	83	147	81
			15	26.67	27	23.33	27.67	49	27
SAT score			*610	570	*590	*650	*800	*630	600
ACT english			27		26	29	36	28	
ACT reading			31		33	32	36	32	
Avg Reading Time (secs)			704	240	445	553	675	572	605
# Words accessed:									
Batman Article			12	3	20 (1)	6 (1)	17 (2)	25 (1)	12 (2)
Letter			16 (1)	5 (1)	16 (4)	8 (3)	18 (2)	21 (6)	18 (4)
Travel Article			12	0	20 (2)	7 (1)	12 (1)	24 (3)	10 (2)
Total			40	8	56	21	47	70	40
Total Target Words			1	1	7	5	5	10	8

Tabulated Data

Subject			64	65	66	67	68	69	70
Coded ID			GCA	GCO	GFI	GSC	GWH	GJO	GLY
			16302	14140	12567	15232	12496	13303	17849
Response times (immediate)			4.98	6.93	10.13	8.46	4.19	7.99	8.35
Response times (delayed)			2.39	5.03	11.58	7.66	4.88	7.46	9.59
Word knowledge (immediate)			6	14	13	19	13	15	24
Word knowledge (delayed)			0	9	11	16	15	11	26
Recall scores (raw)									
Batman article			15	49	43	52	32	45	74
Letter			22	34	41	45	52	21	51
Travel article			11	32	51	31	57	32	58
Totals			48	115	135	128	141	98	183
			16	38.33	45	42.67	47	32.67	61
SAT score			*590	*570	*570	*650	700	*630	590
ACT english			26	25	25	29		28	
ACT reading			28	32	26	36		29	
Avg Reading Time (secs)			323	515	585	420	365	610	520
# Words accessed:									
Batman Article			0	37 (4)	18 (3)	2	4	23 (2)	22 (4)
Letter			16 (4)	25 (6)	8 (5)	8 (4)	10 (6)	15 (6)	0
Travel Article			10 (3)	64 (5)	10 (2)	5	2	20 (5)	20 (5)
Total			26	126	36	15	16	58	42
Total Target Words			7	15	10	4	6	13	9

Tabulated Data

Subject			71	72	73	74	75	76	77
Coded ID			GMA	GPA	GEL	GTA	GPA	GBA	GCO
			19093	12600	13951	11494	16042	11523	18686
Response times (immediate)			7.5	12.42	4.04	9.66	8.47	6.52	6.5
Response times (delayed)			7.41	7.42	[3.25]	7.44	7.22	5.49	6.69
Word knowledge (immediate)			22	10	5	23	14	34	38
Word knowledge (delayed)			20	7	[5]	20	19	31	23
Recall scores (raw)									
Batman article			42	18	24	33	34	44	30
Letter			27	32	54	27	33	38	40
Travel article			30	47	70	32	23	36	36
Totals			99	97	148	92	90	118	106
			33	32.33	49.33	30.67	30	39.33	35.33
SAT score			*550	*610	*570	600	600	600	*650
ACT english			24	27	25				29
ACT reading			25	30	33				28
Avg Reading Time (secs)			295	521	486	323	431	602	690
# Words accessed:									
Batman Article			4	8 (1)	12 (5)	8 (4)	11	36 (3)	14 (1)
Letter			9 (3)	12 (6)	4	10 (1)	2 (1)	22 (3)	21 (5)
Travel Article			5 (1)	3 (1)	14 (5)	5	2	16 (3)	18 (2)
Total			18	23	30	23	15	74	53
Total Target Words			4	8	10	5	1	9	8

Tabulated Data

Subject			78	79	80	81	82	83	84
Coded ID			GGE	GRO	GHO	GCH	GKL	GLI	GZE
			11478	15270	15609	15271	16068	18960	17051
Response times (immediate)			5.69	6.08	10.03	5.65	6.49	7.42	4.54
Response times (delayed)			4.93	8.62	6.11	5.73	7.04	8.05	
Word knowledge (immediate)			43	34	28	27	24	39	27
Word knowledge (delayed)			32	29	16	24	11	33	
Recall scores (raw)									
Batman article			42	41	33	38	27	44	32
Letter			37	25	0	27	34	24	9
Travel article			20	44	8	22	6	7	3
Totals			99	110	41	87	67	75	44
			33	36.67	13.67	29	22.33	25	14.67
SAT score			*550	680	780	660	*650	580	690
ACT english			24				29		
ACT reading			27				32		
Avg Reading Time (secs)			411	600	754	660	562	477	360
# Words accessed:									
Batman Article			17 (3)	19 (3)	29 (2)	18 (2)	26 (2)	20 (1)	32 (1)
Letter			10 (2)	9 (2)	12	9 (1)	34 (3)	17 (1)	3
Travel Article			8 (2)	14 (1)	11 (1)	0	13	4	22
Total			35	42	52	27	73	41	57
Total Target Words			7	6	3	3	5	2	1

Tabulated Data

Subject			85	86	87	88	89	90	91
Coded ID			GKE	GNI	GPF	GSH	GSP	GHU	GSC
			11205	16706	14969	18999	14782	12941	19743
Response times (immediate)			5.96	8.72	7.54	4.42	11.26	5.09	7.22
Response times (delayed)			3.29		11.01	7.96	8.11	3.94	6.35
Word knowledge (immediate)			15	21	31	22	22	34	37
Word knowledge (delayed)			7		30	19	19	25	26
Recall scores (raw)									
Batman article			44	31	39	27	27	18	33
Letter			29	29	31	38	15	35	16
Travel article			25	33	29	31	19	14	55
Totals			98	93	99	96	61	67	104
			32.67	31	33	32	20.33	22.33	34.67
SAT score			630	610	700	610	590	660	580
ACT english									
ACT reading									
Avg Reading Time (secs)			483	444	718	451	324	628	461
# Words accessed:									
Batman Article			42 (3)	11	12 (1)	18 (3)	8	19 (1)	13
Letter			27 (6)	14 (4)	23 (1)	2	8 (2)	14 (5)	4
Travel Article			35 (4)	7 (2)	18 (3)	12 (2)	6 (1)	18 (1)	12 (2)
Total			104	32	53	32	22	51	29
Total Target Words			13	6	5	5	3	7	2

Tabulated Data

Subject			92	93	94	95	96	97	98
Coded ID			GBA	GMC	GOL	GTO	GBA	GBE	GJO
			18426	14574	12804	11329	19796	18423	16258
Response times (immediate)			5.94	6.38	6.27	3.41	3.87	5.5	5.36
Response times (delayed)			8.28	5.55	4.89	3.6	3.7	5.75	4.98
Word knowledge (immediate)			40	26	36	47	44	42	33
Word knowledge (delayed)			29	25	28	35	36	38	26
Recall scores (raw)									
Batman article			11	44	27	59	58	47	21
Letter			37	28	20	38	48	44	32
Travel article			33	36	37	51	43	34	19
Totals			81	108	84	148	149	125	72
			27	36	28	49.33	49.67	41.67	24
SAT score			*540	*500	600	670	*630	*610	610
ACT english			23	22			28	27	
ACT reading			30	29			29	26	
Avg Reading Time (secs)			387	312	566	580	441	440	408
# Words accessed:									
Batman Article			9	6	22 (3)	21	14	26 (1)	28 (1)
Letter			5 (2)	7 (3)	10 (2)	26 (4)	15 (2)	13 (5)	14 (1)
Travel Article			22 (2)	6 92)	7 (2)	36 (5)	19 (4)	16 (3)	17 (2)
Total			36	19	39	83	48	55	59
Total Target Words			4	5	7	9	6	9	4

Tabulated Data

Subject			99	100
Coded ID			GNE	GNO
			15434	18211
Response times (immediate)			5.89	3.5
Response times (delayed)			3.19	
Word knowledge (immediate)			36	30
Word knowledge (delayed)			19	
Recall scores (raw)				
Batman article			24	23
Letter			35	10
Travel article			38	28
Totals			97	61
			32.33	20.33
SAT score			630	*570
ACT english				25
ACT reading				25
Avg Reading Time (secs)			326	539
# Words accessed:				
Batman Article			0	3
Letter			7 (4)	7 (2)
Travel Article			7 (3)	14 (4)
Total			14	24
Total Target Words			7	6

APPENDIX C
SCORING OF THE RECALLS

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>>Foerg Test Analysis<<

Prop	German	English	Val	Sub #									
				1	2	3	4	5	6	7	8	9	10
1	Batman	Batman	4	4	4	4	0	4	4	4	0	0	4
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	0	0	0	0	1	1	0	0	1
3	Er soll ja besser sein	it is supposed to be better	4	0	4	0	4	0	0	0	0	4	0
4	als der erste	than the first	3	0	3	0	3	3	0	0	0	3	0
5	sagt die 14 jährige Mario	says 14 year old Mario	2	0	2	2	0	2	2	2	0	2	2
6	die mit ihrer Freundin	who, with her friend	1	0	1	1	0	1	1	1	1	1	1
7	vor dem Loews-Kino	in front of Loews theater	1	0	0	1	1	0	0	0	1	1	1
8	am Broadway	on Broadway	1	0	0	1	0	0	0	0	1	1	0
9	ansteht	stands (in line)	2	0	0	0	0	0	0	0	0	2	0
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	0	0	0	0	0
11	in der Schlange	in the line	3	3	0	0	0	3	3	3	0	3	0
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	0	0	0	0	0	0	0
13	Obwohl	even though	2	0	0	0	0	0	0	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	0	1	0	0	0	0	0	0	1	0
15	mit helfen wird	will help to (contribute to)	3	0	0	0	0	0	0	0	0	0	0
16	einen Rekord zu brechen	break a record	4	0	0	0	0	0	0	0	0	4	0
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	0	0	0	0	0	1	0	0	0
19	mitmachen und absitzen	participate and sit out	2	0	0	0	0	0	0	0	0	0	0
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	3	0	0	0	0
22	Für Maria steht der Termin	For Maria the date was	4	4	4	4	4	0	4	0	4	4	4
23	seit Wochen fest	was fixed for weeks	4	4	4	0	0	0	0	0	0	4	0
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	3	3	0	0	0	0	0	0	3	3
25	drei Stockwerke hoch	three stores high	1	0	1	0	0	0	0	0	0	0	0
26	über Times Square	over Times Square	2	2	2	0	0	0	2	0	0	0	2
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	0	0
28	Batman kehrt zurück	Batman returns	4	0	4	0	4	4	4	0	4	4	4
29	Der Film	the film	4	4	4	4	4	4	4	4	4	4	4
30	Batman	Batman	3	0	0	0	0	0	0	0	3	0	0
31	die Geldmaschine	the money machine	4	4	0	0	0	0	0	0	0	0	0
32	spuckt wieder	spits again	2	0	0	0	0	0	0	0	0	0	0
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	0	3	0	0	0	0
34	vor zwei Jahren	two years ago	3	0	0	3	0	0	0	0	3	0	0
35	hatte der Mann	had the man	3	3	0	3	0	0	3	0	0	3	0
36	mit der Fledermausmaske	with the Bat mask	1	1	0	0	0	0	0	0	0	1	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>> Foerg Test Analysis <<

			Sub #	1	2	3	4	5	6	7	8	9	10
Prop	German	English	Vol										
37	Platz sechs	sixth place	1	0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	0	0	3	0	0	0	0	3	3	3
39	geschafft	achieved	2	0	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	4	0	0	0	4	0	0	4	0	0
41	schon am ersten Wochenende	already on the first weekend	2	2	0	0	0	2	0	2	0	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	3	0	0	0	3	0	3	3	3	3
43	Weltrekord	world record	4	0	4	0	0	0	0	0	0	4	4
44	Alle amerikanischen Kinder	All American children	4	4	4	0	0	4	4	4	0	4	0
45	seit 1939	since 1939	1	1	1	0	0	0	0	0	0	1	0
46	sind mit Batman groß geworden	grew up with Batman	4	0	0	0	0	0	0	0	0	4	0
47	Der Fledermaustyp	the Bat figure	1	0	0	0	0	0	0	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	0	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	is a shy, lonely person	4	0	0	4	0	0	0	0	4	0	0
50	der sich verwandelt	who transforms himself	2	0	0	0	0	0	0	0	2	0	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	0	0	0	0	0	0	0	0	0
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	0	0	0	0	0	0	0	0	0	0
55	ist der Lotse	is the pilot	3	0	0	0	0	0	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	2	0	0	0	0	0	0	0	0
Totals			138										
			Automatic	46	48	30	20	34	38	25	37	64	36
			Manual										

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

			Sub #	11	12	13	14	15	16	17	18	19	20
Prop	German	English	Val										
1	Batman	Batman	4	4	4	0	4	4	4	4	4	4	4
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	0	0	0	0	1	0	1	0	0
3	Er soll ja besser sein	It is supposed to be better	4	0	0	0	0	0	0	0	4	4	0
4	als der erste	than the first	3	0	3	0	0	0	3	0	3	3	0
5	sagt die 14 jährige Maria	says 14 year old Maria	2	2	2	0	2	0	2	2	2	2	2
6	die mit ihrer Freundin	who, with her friend	1	0	1	0	0	0	1	0	1	0	1
7	vor dem Loews-Kino	in front of Loews theater	1	0	1	0	0	0	0	0	0	0	1
8	am Broadway	on Broadway	1	0	0	0	0	0	0	0	0	0	0
9	ansteht	stands (in line)	2	0	0	0	0	0	0	0	0	0	0
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	0	0	0	0	0
11	in der Schlange	in the line	3	0	3	0	0	3	3	0	3	3	0
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	0	0	0	0	0	0	0
13	Obwohl	even though	2	0	2	0	0	0	0	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	0	1	0	0	0	0	0	1	0	0
15	mit helfen wird	will help to (contribute to)	3	0	0	0	0	0	0	0	0	0	0
16	einen Rekord zu brechen	break a record	4	0	0	0	0	0	0	0	4	0	0
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	0	1	0	0	0	0	0	0	0
19	mitmachen und absetzen	participate and sit out	2	0	2	2	0	0	0	0	0	0	0
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	0	0	0	0	0
22	Für Maria steht der Termin	For Maria the date was	4	4	4	4	0	4	4	4	4	4	0
23	seit Wochen fest	was fixed for weeks	4	0	0	0	0	0	0	0	0	0	0
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	0	0	0	0	0	0	0	0	0	0
25	drei Stockwerke hoch	three stores high	1	0	0	0	0	0	0	0	1	0	0
26	über Times Square	over Times Square	2	2	0	2	0	2	0	2	2	2	0
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	1	0
28	Batman kehrt zurück	Batman returns	4	0	0	4	0	4	4	0	4	0	0
29	Der Film	the film	4	0	4	4	0	4	4	4	4	4	4
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0
31	die Geldmaschine	the money machine	4	0	0	0	0	0	0	0	0	0	0
32	spuckt wieder	spits again	2	0	0	0	0	0	0	2	0	0	0
33	Bereits im ersten Anlauf	Already in the first run	3	3	0	0	0	0	3	3	0	0	0
34	vor zwei Jahren	two years ago	3	0	0	0	0	0	0	0	0	0	0
35	hatte der Mann	had the man	3	3	0	0	0	0	0	3	0	0	3
36	mit der Fledermausmaske	with the Bat mask	1	0	0	0	0	0	0	0	1	0	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>>Foerg Test Analysis<<

			Sub #	11	12	13	14	15	16	17	18	19	20
Prop	German	English	Val										
37	Platz sechs	sixth place	1	0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	0	0	0	0	0	3	3	0	0	3
39	geschafft	achieved	2	0	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	4	0	0	0	0	0	0	4	0	0
41	schon am ersten Wochenende	already on the first weekend	2	2	0	0	0	0	0	0	2	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	3	3	0	0	3	3	0	0	3	0
43	Weltrekord	world record	4	4	0	0	0	0	0	4	0	0	0
44	Alle amerikanischen Kinder	All American children	4	0	0	0	0	0	4	0	0	4	0
45	seit 1939	since 1939	1	0	0	0	0	0	0	1	0	1	0
46	sind mit Batman groß geworden	grew up with Batman	4	4	0	0	0	0	4	4	4	4	0
47	Der Fledermaustyp	the Bat figure	1	1	0	0	0	0	0	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	0	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	is a shy, lonely person	4	0	0	0	0	0	0	0	0	0	0
50	der sich verwandelt	who transforms himself	2	0	0	2	2	0	2	0	0	2	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	0	2	2	0	0	0	0	2	0
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	0	0	0	0	0	0	0	0	0	0
55	ist der Lotse	is the pilot	3	0	0	0	0	0	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	0	0	0	0	0	0	0	0	0
Totals			138										
			Automatic	36	30	21	10	24	45	36	49	43	18
			Manual										

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

			Sub #	21	22	23	24	25	26	27	28	29	30
Prop	German	English	Vol										
1	Batman	Batman	4	4	4	0	0	0	4	4	4	0	0
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	0	0	0	0	0	0	0	0	0
3	Er soll ja besser sein	It is supposed to be better	4	4	4	0	0	4	0	0	0	0	0
4	als der erste	than the first	3	3	3	0	0	3	0	0	0	0	0
5	sagt die 14 jährige Maria	says 14 year old Maria	2	2	2	0	0	2	2	0	2	0	0
6	die mit ihrer Freundin	who, with her friend	1	1	0	0	1	1	1	0	1	0	0
7	vor dem Loews-Kino	in front of Loews theater	1	0	0	0	0	0	0	0	0	0	0
8	am Broadway	on Broadway	1	0	0	0	0	0	0	0	1	1	0
9	ansteht	stands (in line)	2	0	0	0	0	0	0	0	0	0	0
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	0	0	0	0	0
11	in der Schlange	in the line	3	3	3	0	3	0	3	3	3	3	0
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	0	0	0	0	0	0	0
13	Obwohl	even though	2	2	0	0	0	0	0	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	1	0	0	0	0	1	0	1	0	0
15	mit hlfen wird	will help to (contribute to)	3	3	0	0	0	0	0	0	0	0	0
16	einen Rekord zu brechen	break a record	4	4	0	0	0	0	0	0	0	0	0
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	4	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	0	0	0	0	0	0	0	0	0
19	mitmachen und absitzen	participate and sit out	2	0	0	0	0	0	0	0	0	0	0
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	3	0	0	0	0	0	0	0	0
22	Für Maria steht der Termin	For Maria the date was	4	4	4	0	0	4	4	4	0	0	0
23	seit Wochen fest	was fixed for weeks	4	0	4	0	0	0	0	0	0	0	0
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	3	0	0	0	0	0	0	0	0	0
25	drei Stockwerke hoch	three stores high	1	1	1	0	0	0	0	0	0	0	0
26	über Times Square	over Times Square	2	2	2	0	0	0	2	0	0	0	0
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	0	0
28	Batman kehrt zurück	Batman returns	4	4	4	4	4	4	4	4	4	4	4
29	Der Film	the film	4	0	4	4	4	4	4	4	4	4	4
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0
31	die Geldmaschine	the money machine	4	0	0	0	0	0	0	0	0	0	0
32	spuckt wieder	spits again	2	0	0	0	0	0	0	0	0	0	0
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	0	3	0	0	0	0
34	vor zwei Jahren	two years ago	3	0	3	0	0	0	0	0	0	0	0
35	hatte der Mann	had the man	3	0	3	0	0	0	0	3	0	0	0
36	mit der Fledermausmaske	with the Bat mask	1	0	1	0	0	0	0	1	0	1	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

			Sub #	21	22	23	24	25	26	27	28	29	30
Prop	German	English	Val										
37	Platz sechs	sixth place	1	0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	3	0	0	0	0	0	3	0	3	0
39	geschafft	achieved	2	0	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	0	0	0	0	0	0	0	0	4	0
41	schon am ersten Wochenende	already on the first weekend	2	2	0	0	0	0	0	0	2	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	0	3	0	0	3	0	0	0	3	0
43	Weltrekord	world record	4	4	4	0	0	0	0	0	0	0	0
44	Alle amerikanischen Kinder	All American children	4	0	4	0	0	4	0	0	4	0	4
45	seit 1939	since 1939	1	1	1	0	0	1	1	0	1	0	0
46	sind mit Batman groß geworden	grew up with Batman	4	4	0	0	0	4	4	0	4	0	0
47	Der Fledermaustyp	the Bat figure	1	0	0	0	0	0	0	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	3	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	is a shy, lonely person	4	0	0	0	0	0	0	0	4	0	0
50	der sich verwandelt	who transforms himself	2	2	2	0	0	0	0	0	0	0	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	2	0	0	0	0	2	0	0	0
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	0	0	0	0	0	0	2	0	0	0
55	ist der Lotse	is the pilot	3	0	0	0	0	0	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	0	0	0	0	0	2	0	0	0
Totals			138										
			Automatic	61	64	8	12	34	33	32	35	23	12
			Manual										

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

Prop	German	English	Val	Sub #															
				31	32	33	34	35	36	37	38	39	40						
1	Batman	Batman	4	4	0	4	4	4	0	4	4	0	0						
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	0	1	0	0	0	0	0	1	0						
3	Er soll ja besser sein	It is supposed to be better	4	0	0	0	4	0	4	0	4	0	0						
4	als der erste	than the first	3	0	0	0	3	0	3	0	3	0	0						
5	sagt die 14 jährige Maria	says 14 year old Maria	2	2	2	2	2	0	2	2	2	2	0						
6	die mit ihrer Freundin	who, with her friend	1	0	1	1	1	1	1	1	1	1	0						
7	vor dem Loews-Kino	in front of Loews theater	1	0	0	0	1	0	1	1	0	0	1						
8	am Broadway	on Broadway	1	0	1	1	0	0	1	1	0	1	0						
9	ansteht	stands (in line)	2	0	0	0	0	0	0	0	0	0	0						
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	0	0	0	0	0						
11	in der Schlange	in the line	3	0	3	3	3	3	0	0	3	3	3						
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	0	0	0	0	0	0	0						
13	Obwohl	even though	2	0	0	0	0	0	0	0	0	0	0						
14	sie an diesem Wochenende	she on this weekend	1	0	0	0	0	0	0	0	1	0	1						
15	mit helfen wird	will help to (contribute to)	3	0	0	0	0	0	0	0	0	0	0						
16	einen Rekord zu brechen	break a record	4	0	0	0	0	0	4	0	0	0	0						
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0						
18	Es klingt wie	it sounds like	1	0	0	0	0	0	0	0	0	0	0						
19	mitmachen und absitzen	participate and sit out	2	0	0	0	0	0	0	0	0	0	0						
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0						
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	0	0	0	0	0						
22	Für Maria steht der Termin	For Maria the date was	4	0	4	4	4	0	4	0	4	4	4						
23	seit Wochen fest	was fixed for weeks	4	0	0	0	0	0	0	0	0	0	0						
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	0	0	3	0	0	0	0	0	0	0						
25	drei Stockwerke hoch	three stores high	1	0	0	0	1	0	0	0	0	0	0						
26	über Times Square	over Times Square	2	0	2	2	2	2	0	0	0	0	0						
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	0	0						
28	Batman kehrt zurück	Batman returns	4	4	4	4	4	4	0	4	4	4	4						
29	Der Film	the film	4	4	4	4	4	4	0	0	4	4	4						
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0						
31	die Geldmaschine	the money machine	4	0	0	0	0	0	0	0	0	0	4						
32	spuckt wieder	spits again	2	0	0	0	0	0	0	0	0	0	0						
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	0	0	0	0	0	0						
34	vor zwei Jahren	two years ago	3	0	0	0	0	0	3	0	3	0	0						
35	hatte der Mann	had the man	3	0	0	0	0	0	3	3	3	0	0						
36	mit der Fledermausmaske	with the Bat mask	1	0	0	0	0	0	0	1	0	0	0						

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

Prop	German	English	Val	Sub #									
				31	32	33	34	35	36	37	38	39	40
37	Platz sechs	sixth place	1	0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	0	0	0	0	0	0	0	0	0	3
39	geschafft	achieved	2	0	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	0	0	0	4	0	0	4	4	0	4
41	schon am ersten Wochenende	already on the first weekend	2	0	0	0	0	0	0	0	2	0	2
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	0	3	0	0	3	0	3	3	0	0
43	Weltrekord	world record	4	0	4	0	0	0	0	0	0	0	0
44	Alle amerikanischen Kinder	All American children	4	4	0	4	0	0	4	0	0	0	0
45	seit 1939	since 1939	1	1	1	0	0	0	1	0	0	1	0
46	sind mit Batman groß geworden	grew up with Batman	4	4	4	0	4	0	4	0	0	4	0
47	Der Fledermaustyp	the Bat figure	1	0	0	0	0	0	0	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	0	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	a shy, lonely person	4	4	0	0	4	0	0	0	0	0	4
50	der sich verwandelt	who transforms himself	2	0	0	0	2	0	0	0	0	2	2
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	0	0	2	0	0	0	0	2	2
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	0	0	0	0	0	0	0	0	0	0
55	ist der Lotse	is the pilot	3	0	0	0	0	0	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	0	0	0	0	0	0	0	0	0
Totals			138										
			Automa	27	33	33	43	21	35	24	45	29	38
			Manua										

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

			Sub #	41	42	43	44	45	46	47	48	49	50
Prop	German	English	Vol										
1	Batman	Batman	4	4	4	4	4	4	4	4	0	4	4
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	1	0	1	0	0	0	0	0	1	0
3	Er soll ja besser sein	It is supposed to be better	4	4	4	4	0	4	0	4	4	0	0
4	als der erste	than the first	3	3	3	3	3	3	0	3	3	0	3
5	sagt die 14 jährige Maria	says 14 year old Maria	2	2	2	2	2	2	0	2	2	2	2
6	die mit ihrer Freundin	who, with her friend	1	1	1	1	1	1	0	1	1	1	1
7	vor dem Loews-Kino	in front of Loews theater	1	1	0	0	0	0	1	0	1	1	0
8	am Broadway	on Broadway	1	1	0	1	1	1	0	0	0	0	1
9	ansteht	stands (in line)	2	0	2	0	0	0	0	0	0	0	2
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	0	0	0	0	0
11	in der Schlange	in the line	3	0	3	3	3	3	3	0	0	0	0
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	3	0	0	0	0	0	0	0	0
13	Obwohl	even though	2	0	0	0	0	0	0	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	1	1	0	0	1	0	0	1	0	0
15	mit hlfen wird	will help to (contribute to)	3	0	0	0	0	3	0	0	0	0	0
16	einen Rekord zu brechen	break a record	4	0	4	0	0	4	4	0	4	0	0
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	0	0	0	0	0	0	0	0	0
19	mitmachen und absitzen	participate and sit out	2	0	0	0	0	0	0	0	0	0	0
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	0	0	0	0	0
22	Für Maria steht der Termin	For Maria the date was	4	4	4	4	4	0	0	4	4	4	0
23	seit Wochen fest	was fixed for weeks	4	0	0	0	0	0	0	0	0	0	0
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	0	0	0	0	3	0	0	3	0	3
25	drei Stockwerke hoch	three stores high	1	0	0	0	0	0	0	0	0	0	0
26	über Times Square	over Times Square	2	2	0	2	0	0	0	0	0	0	0
27	schwarz auf gelb	black on yellow	1	0	0	1	0	0	0	0	0	0	0
28	Batman kehrt zurück	Batman returns	4	4	0	4	0	0	0	0	0	4	4
29	Der Film	the film	4	4	4	4	4	4	0	0	4	4	4
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0
31	die Geldmaschine	the money machine	4	4	0	0	0	0	0	0	4	0	0
32	spuckt wieder	spits again	2	0	0	0	0	0	0	0	0	0	0
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	3	0	0	3	0	0
34	vor zwei Jahren	two years ago	3	0	0	0	0	3	0	0	0	0	0
35	hatte der Mann	had the man	3	0	3	3	3	0	0	0	0	0	0
36	mit der Fledermausmaske	with the Bat mask	1	0	0	0	0	0	0	0	0	0	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>> Foerg Test Analysis <<

			Sub #	41	42	43	44	45	46	47	48	49	50
Prop	German	English	Val										
37	Platz sechs	sixth place	1	0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	0	3	0	3	3	0	0	3	0	0
39	geschafft	achieved	2	0	0	2	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	0	0	4	4	4	0	0	0	0	0
41	schon am ersten Wochenende	already on the first weekend	2	0	2	0	2	2	2	0	0	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	3	3	0	3	3	3	0	0	0	0
43	Weltrekord	world record	4	4	0	0	4	0	0	0	0	0	0
44	Alle amerikanischen Kinder	All American children	4	0	0	4	0	4	0	4	4	0	4
45	seit 1939	since 1939	1	0	0	1	0	1	0	1	1	0	1
46	sind mit Batman groß geworden	grew up with Batman	4	4	0	0	0	0	0	0	4	0	4
47	Der Fledermauslyp	the Bat figure	1	1	0	0	0	0	0	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	0	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	is a shy, lonely person	4	0	4	0	0	0	0	0	0	0	0
50	der sich verwandelt	who transforms himself	2	0	2	0	0	0	0	0	2	0	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	2	0	0	0	0	0	0	0	0
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	0	0	0	0	0	0	0	0	0	0
55	ist der Lotse	is the pilot	3	0	0	0	3	0	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	0	0	0	0	0	0	0	2	0
Totals			138										
			Automa	43	54	48	44	56	17	23	48	23	33
			Manua										

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>>Foerg Test Analysis<<

Prop	German	English	Sub #	51	52	53	54	55	56	57	58	59	60
1	Batman	Batman	4	4	4	4	4	4	0	4	4	4	0
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	1	0	0	0	0	1	0	1	0	1
3	Er soll ja besser sein	it is supposed to be better	4	0	4	4	0	0	0	0	0	0	0
4	als der erste	than the first	3	3	3	3	3	0	0	0	0	0	0
5	sagt die 14 jährige Mario	says 14 year old Mario	2	2	2	2	2	0	0	0	2	0	2
6	die mit ihrer Freundin	who, with her friend	1	0	1	0	1	0	1	0	1	0	1
7	vor dem Loews-Kino	in front of Loews theater	1	0	0	1	0	0	0	0	0	0	0
8	am Broadway	on Broadway	1	0	1	0	0	0	1	0	0	0	0
9	ansteht	stands (in line)	2	2	2	2	0	0	0	0	0	0	0
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	0	0	2	0	0
11	in der Schlange	in the line	3	3	0	3	3	0	0	0	3	3	0
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	3	0	0	0	0	3	0
13	Obwohl	even though	2	0	0	0	0	0	0	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	0	1	0	1	0	0	0	0	0	0
15	mit helfen wird	will help to (contribute to)	3	0	0	0	0	0	0	0	0	0	0
16	einen Rekord zu brechen	break a record	4	0	0	0	4	0	0	0	0	0	0
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	0	0	0	0	0	0	0	0	0
19	mitmachen und absitzen	participate and sit out	2	0	0	0	0	0	0	0	0	2	0
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	0	0	0	0	0
22	Für Mario steht der Termin	For Mario the date was	4	4	4	0	4	0	4	4	4	0	4
23	seit Wochen fest	was fixed for weeks	4	0	0	4	0	0	0	0	0	0	4
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	0	3	0	3	0	0	0	3	0	0
25	drei Stockwerke hoch	three stores high	1	0	1	0	0	0	0	0	0	0	0
26	über Times Square	over Times Square	2	2	2	0	2	0	0	0	0	0	0
27	schwarz auf gelb	black on yellow	1	0	1	0	0	0	0	0	0	0	0
28	Batman kehrt zurück	Batman returns	4	4	4	0	4	4	0	4	4	0	4
29	Der Film	the film	4	0	0	4	0	4	0	4	4	0	4
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0
31	die Geldmaschine	the money machine	4	4	0	4	0	0	0	0	0	0	4
32	spuckt wieder	spits again	2	0	0	0	0	0	0	0	2	0	2
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	3	0	0	0	0	0
34	vor zwei Jahren	two years ago	3	0	0	3	0	0	0	0	0	0	0
35	hatte der Mann	had the man	3	0	0	3	3	3	0	3	3	3	0
36	mit der Fledermausmaske	with the Bat mask	1	0	0	0	0	0	0	1	0	0	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

			Sub #	51	52	53	54	55	56	57	58	59	60
Prop	German	English	Vol										
37	Platz sechs	sixth place	1	0	0	1	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	0	0	3	0	3	0	0	0	0	3
39	geschafft	achieved	2	0	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	0	0	0	0	0	0	0	0	0	0
41	schon am ersten Wochenende	already on the first weekend	2	0	2	0	2	0	0	2	0	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	0	3	3	3	0	0	3	3	3	0
43	Weltrekord	world record	4	0	4	0	4	0	0	0	0	4	0
44	Alle amerikanischen Kinder	All American children	4	0	4	0	0	0	0	0	0	0	0
45	seit 1939	since 1939	1	0	1	0	1	0	1	0	0	0	1
46	sind mit Batman groß geworden	grew up with Batman	4	0	0	4	4	4	4	0	4	0	4
47	Der Fledermaustyp	the Bat figure	1	0	0	0	0	1	0	1	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	0	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	is a shy, lonely person	4	0	0	0	0	0	0	4	0	0	0
50	der sich verwandelt	who transforms himself	2	0	0	2	0	0	2	2	0	2	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	0	0	0	0	2	2	0	0	0
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	0	0	0	0	0	0	0	0	0	0
55	ist der Lotse	is the pilot	3	0	0	0	0	0	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	0	0	0	0	0	0	0	0	0
Totals			138										
Automatic			29	47	50	51	26	16	34	40	24	34	
Manual													

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>>Foerg Test Analysis<<

			Sub #	61	62	63	64	65	66	67	68	69	70
Prop	German	English	Val										
1	Batman	Batman	4	4	4	0	4	4	4	4	4	4	4
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	1	1	1	0	0	0	1	1	1
3	Er soll ja besser sein	it is supposed to be better	4	0	4	0	0	4	0	4	4	4	4
4	als der erste	than the first	3	0	3	3	0	3	3	3	3	3	3
5	sagt die 14 jährige Maria	says 14 year old Maria	2	2	2	2	2	2	0	2	2	0	2
6	die mit ihrer Freundin	who, with her friend	1	1	1	1	1	1	1	1	0	1	1
7	vor dem Loews-Kino	in front of Loews theater	1	1	0	1	0	0	0	1	1	1	1
8	am Broadway	on Broadway	1	0	0	0	0	0	0	0	0	0	0
9	ansteht	stands (in line)	2	0	2	0	0	2	2	0	0	0	2
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	2	0	0	2	2
11	in der Schlange	in the line	3	3	3	3	3	3	3	3	0	3	3
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	0	0	0	0	0	0	3
13	Obwohl	even though	2	0	0	0	0	0	0	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	0	0	0	0	1	1	0	1	0	1
15	mit hlfen wird	will help to (contribute to)	3	0	0	0	0	0	3	0	3	0	0
16	einen Rekord zu brechen	break a record	4	0	0	0	0	0	0	0	4	0	4
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	1	0	0	1	0	0	0	0	0
19	mitmachen und absitzen	participate and sit out	2	0	0	0	0	0	0	0	0	0	0
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	0	0	0	0	0
22	Für Maria steht der Termin	For Maria the date was	4	4	4	4	0	4	4	0	4	4	4
23	seit Wochen fest	was fixed for weeks	4	0	0	0	0	0	0	0	0	0	0
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	3	3	0	0	0	0	0	0	0	3
25	drei Stockwerke hoch	three stores high	1	0	0	1	0	0	0	0	1	0	0
26	über Times Square	over Times Square	2	0	2	0	0	0	0	2	0	0	2
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	0	0
28	Batman kehrt zurück	Batman returns	4	4	4	4	0	0	0	4	0	0	0
29	Der Film	the film	4	4	4	4	0	4	4	4	0	4	4
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0
31	die Geldmaschine	the money machine	4	0	0	4	0	4	4	0	0	0	0
32	spuckt wieder	spits again	2	0	0	2	0	0	2	0	0	0	0
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	0	0	0	0	0	3
34	vor zwei Jahren	two years ago	3	0	0	0	0	0	0	0	0	0	3
35	hatte der Mann	had the man	3	0	3	3	0	3	0	3	0	0	3
36	mit der Fledermausmaske	with the Bat mask	1	0	0	0	0	1	0	0	0	0	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

Prop	German	English	Val	Sub #	61	62	63	64	65	66	67	68	69	70
37	Platz sechs	sixth place	1		0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3		0	3	3	0	0	0	3	0	3	0
39	geschafft	achieved	2		0	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4		0	4	0	0	0	0	0	0	0	4
41	schon am ersten Wochenende	already on the first weekend	2		2	0	0	0	0	0	2	0	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3		3	3	0	0	3	3	3	0	3	3
43	Weltrekord	world record	4		4	4	0	0	0	0	4	4	0	4
44	Alle amerikanischen Kinder	All American children	4		4	0	0	0	0	0	0	0	0	4
45	seit 1939	since 1939	1		1	0	0	0	0	0	0	0	0	1
46	sind mit Batman groß geworden	grew up with Batman	4		0	0	0	0	0	0	0	0	0	0
47	Der Fledermaustyp	the Bat figure	1		0	0	0	0	1	1	1	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3		0	0	0	0	0	0	0	0	0	3
49	ist ein schüchterner einsamer Mensch	is a shy, lonely person	4		0	0	0	4	4	4	4	0	4	0
50	der sich verwandelt	who transforms himself	2		0	0	0	0	2	0	2	0	0	2
51	wenn er sich die Maske überstülpt	when he dons the mask	2		0	0	0	0	2	0	2	0	2	0
52	Batman	Batman	1		0	0	0	0	0	0	0	0	1	0
53	tagsüber	by day	2		0	0	0	0	0	0	0	0	2	0
54	braver Bürger	good citizen	2		0	0	0	0	0	2	0	0	0	0
55	ist der Lotse	is the pilot	3		0	0	0	0	0	0	0	0	3	0
56	durch die Schattenwelt	through the shadow world	2		0	0	0	0	0	0	0	0	0	0
Totals				138										
Automatic				40	55	36	15	49	43	52	32	45	74	
Manual														

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>> Foerg Test Analysis <<

Prop	German	English	Sub #	Val	71	72	73	74	75	76	77	78	79	80
1	Batman	Batman	4	4	4	4	4	4	4	4	4	4	4	4
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	0	0	1	1	1	1	0	0	1	
3	Er soll ja besser sein	It is supposed to be better	4	4	0	4	0	4	4	0	0	4	0	
4	als der erste	than the first	3	3	0	3	0	3	3	3	0	3	3	
5	sagt die 14 jährige Maria	says 14 year old Maria	2	2	2	2	0	2	2	2	2	2	2	
6	die mit ihrer Freundin	who, with her friend	1	0	1	1	1	1	0	0	0	1	1	
7	vor dem Loews-Kino	in front of Loews theater	1	1	1	0	0	0	0	1	0	0	0	
8	am Broadway	on Broadway	1	0	1	0	0	0	0	1	0	1	0	
9	ansteht	stands (in line)	2	0	0	2	0	0	2	2	0	2	0	
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	0	2	0	0	0	2	
11	in der Schlange	in the line	3	3	0	3	0	3	3	3	0	3	0	
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	0	0	0	0	0	0	0	
13	Obwohl	even though	2	0	0	0	0	0	2	0	0	0	0	
14	sie an diesem Wochenende	she on this weekend	1	0	0	0	0	0	0	0	0	1	0	
15	mit helfen wird	will help to (contribute to)	3	0	0	0	0	0	3	0	0	0	0	
16	einen Rekord zu brechen	break a record	4	0	0	0	4	0	4	0	0	0	4	
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	4	0	0	0	0	0	0	0	4	
18	Es klingt wie	it sounds like	1	0	1	0	0	0	0	0	0	0	1	
19	mitmachen und obsitzen	participate and sit out	2	0	0	0	0	0	0	0	2	0	0	
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	1	0	0	0	0	
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	3	0	0	0	0	
22	Für Maria steht der Termin	For Maria the date was	4	4	0	0	4	4	4	0	4	4	4	
23	seit Wochen fest	was fixed for weeks	4	4	0	0	0	0	0	0	0	0	0	
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	0	0	0	0	0	0	0	0	3	0	
25	drei Stockwerke hoch	three stores high	1	0	0	0	0	0	0	0	0	0	0	
26	über Times Square	over Times Square	2	0	0	0	0	2	0	0	0	0	0	
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	0	0	
28	Batman kehrt zurück	Batman returns	4	0	0	0	0	0	0	0	0	0	0	
29	Der Film	the film	4	4	4	0	4	4	0	0	4	4	4	
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0	
31	die Geldmaschine	the money machine	4	0	0	0	0	0	4	0	0	0	0	
32	spuckt wieder	spits again	2	0	0	0	0	0	2	0	0	0	0	
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	0	0	0	3	0	0	
34	vor zwei Jahren	two years ago	3	0	0	0	0	0	0	0	0	3	0	
35	hatte der Mann	had the man	3	0	0	0	0	3	0	3	0	0	0	
36	mit der Fledermausmaske	with the Bat mask	1	0	0	0	0	0	0	0	0	0	0	

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>>Foerg Test Analysis<<

Prop	German	English	Vol	Sub #	71	72	73	74	75	76	77	78	79	80
37	Platz sechs	sixth place	1		0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3		0	0	0	0	3	0	3	3	3	0
39	geschafft	achieved	2		0	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4		0	0	0	0	0	0	4	4	0	0
41	schon am ersten Wochenende	already on the first weekend	2		2	0	0	0	0	0	0	2	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3		3	0	0	0	0	0	3	3	3	3
43	Weltrekord	world record	4		0	0	0	0	0	0	0	4	0	0
44	Alle amerikanischen Kinder	All American children	4		0	0	4	0	0	0	0	0	0	0
45	seit 1939	since 1939	1		0	0	1	0	0	0	0	0	0	0
46	sind mit Batman groß geworden	grew up with Batman	4		0	0	0	0	0	0	0	0	0	0
47	Der Fledermauslyp	the Bat figure	1		0	0	0	0	0	0	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3		0	0	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	is a shy, lonely person	4		4	0	0	4	0	0	0	0	0	0
50	der sich verwandelt	who transforms himself	2		2	0	0	2	0	0	0	0	0	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2		2	0	0	2	0	0	0	0	0	0
52	Batman	Batman	1		0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2		0	0	0	2	0	0	0	0	0	0
54	braver Bürger	good citizen	2		0	0	0	0	0	0	0	2	0	0
55	ist der Lotse	is the pilot	3		0	0	0	3	0	0	0	3	0	0
56	durch die Schattenwelt	through the shadow world	2		0	0	0	2	0	0	0	2	0	0
Totals			138											
Automatic					42	18	24	33	34	44	30	42	41	33
Manual														

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>>Foerg Test Analysis<<

Prop	German	English	Val	81	82	83	84	85	86	87	88	89	90
1	Batman	Batman	4	4	4	4	4	4	4	4	0	4	4
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	0	0	1	1	0	0	0	0	1
3	Er soll ja besser sein	It is supposed to be better	4	4	0	4	4	0	0	4	4	4	0
4	als der erste	than the first	3	3	0	3	3	0	3	3	3	3	0
5	sagt die 14 jährige Maria	says 14 year old Maria	2	2	2	2	2	2	2	2	2	2	2
6	die mit ihrer Freundin	who, with her friend	1	1	0	1	0	1	1	1	1	1	0
7	vor dem Loews-Kino	in front of Loews theater	1	0	0	0	0	1	0	0	1	0	0
8	am Broadway	on Broadway	1	0	0	0	0	0	0	0	1	0	0
9	ansteht	stands (in line)	2	2	0	0	0	2	0	2	0	0	0
10	und nur millimeterweise vorrückl	and only moves forward by millimeters	2	0	0	0	0	2	0	2	0	0	0
11	in der Schlange	in the line	3	0	0	3	3	3	3	3	0	0	3
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	3	0	3	0	0	0	0	0	0
13	Obwohl	even though	2	0	0	0	0	0	0	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	1	1	1	0	0	1	0	1	0	0
15	mit helfen wird	will help to (contribute to)	3	0	0	0	0	0	0	0	0	0	0
16	einen Rekord zu brechen	break a record	4	0	0	4	4	0	0	4	4	4	0
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	0	0	0	0	0	0	0	0	0
19	mitmachen und obsitzen	participate and sit out	2	0	0	0	0	0	0	0	0	0	0
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	0	0	0	0	0
22	Für Maria steht der Termin	For Maria the date was	4	4	4	0	0	4	4	4	0	0	4
23	seit Wochen fest	was fixed for weeks	4	0	0	0	0	0	0	0	0	0	0
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	0	0	3	0	3	0	0	0	0	0
25	drei Stockwerke hoch	three stores high	1	0	0	0	0	0	0	0	0	0	0
26	über Times Square	over Times Square	2	0	0	0	0	0	2	0	0	0	0
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	0	0
28	Batman kehrt zurück	Batman returns	4	0	0	4	0	0	0	0	0	0	0
29	Der Film	the film	4	0	4	4	4	4	4	0	4	4	4
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0
31	die Geldmaschine	the money machine	4	0	0	0	0	0	0	0	0	0	0
32	spuckt wieder	spits again	2	0	0	0	0	0	0	0	0	0	0
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	0	0	0	3	0	0	0
34	vor zwei Jahren	two years ago	3	0	0	0	0	0	0	0	0	0	0
35	hatte der Mann	had the man	3	0	0	0	0	0	0	3	3	0	0
36	mit der Fledermausmaske	with the Bat mask	1	0	1	0	0	0	0	0	0	0	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>> Foerg Test Analysis <<

			Sub #	81	82	83	84	85	86	87	88	89	90
Prop	German	English	Vol										
37	Platz sechs	sixth place	1	0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	0	3	0	0	3	0	0	3	0	0
39	geschafft	achieved	2	2	0	0	0	0	0	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	0	0	4	4	0	0	0	0	0	0
41	schon am ersten Wochenende	already on the first weekend	2	0	0	0	0	0	2	0	0	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	3	0	3	0	0	3	0	0	0	0
43	Weltrekord	world record	4	4	0	0	0	0	0	0	0	0	0
44	Alle amerikanischen Kinder	All American children	4	4	0	0	0	0	0	0	0	4	0
45	seit 1939	since 1939	1	1	0	0	0	1	0	0	0	1	0
46	sind mit Batman groß geworden	grew up with Batman	4	0	0	0	0	4	0	0	0	0	0
47	Der Fledermaustyp	the Bat figure	1	0	0	0	0	0	0	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	0	0	0	0	0	0	0	0	0
49	ist ein schüchterner einsamer Mensch	a shy, lonely person	4	0	0	0	0	0	0	0	0	0	0
50	der sich verwandelt	who transforms himself	2	0	0	0	0	0	0	2	0	0	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	0	0	0	2	0	2	0	0	0
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	0	0	2	0	2	0	0	0	0	0
55	ist der Lotse	is the pilot	3	3	3	0	0	3	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	2	2	0	2	2	0	0	0	0
Totals			138										
Automatic			38	27	44	32	44	31	39	27	27	18	
Manual													

Scoring of Batman Article

Batman Article Propositional Analysis Chart

>> Foerg Test Analysis <<

Prop	German	English	Sub #	Val	91	92	93	94	95	96	97	98	99	100
1	Batman	Batman	4	4	4	4	4	0	4	4	4	4	4	4
2	Aufstand im Kinderzimmer	Revolt in the Kids' Room	1	0	0	0	0	0	0	0	0	0	0	0
3	Er soll ja besser sein	It is supposed to be better	4	4	0	4	0	4	4	4	4	0	0	0
4	als der erste	than the first	3	3	0	3	0	3	3	3	3	3	0	3
5	sagt die 14 jährige Maria	says 14 year old Maria	2	0	0	2	0	2	2	2	2	0	0	0
6	die mit ihrer Freundin	who, with her friend	1	0	0	1	0	1	1	0	0	0	0	0
7	vor dem Loews-Kino	in front of Loews theater	1	0	0	0	0	0	0	0	0	0	0	0
8	am Broadway	on Broadway	1	0	0	1	0	0	1	0	0	0	0	0
9	ansteht	stands (in line)	2	0	0	0	2	2	2	0	0	0	0	0
10	und nur millimeterweise vorrückt	and only moves forward by millimeters	2	0	0	0	0	2	0	0	0	0	0	0
11	in der Schlange	in the line	3	3	0	0	3	3	3	3	3	3	0	3
12	die sich vor der Kasse gebildet hat	that formed in front of the cashier	3	0	0	0	0	0	0	0	0	0	0	0
13	Obwohl	even though	2	0	0	0	0	0	2	2	0	0	0	0
14	sie an diesem Wochenende	she on this weekend	1	0	0	0	0	1	0	0	0	0	0	0
15	mit helfen wird	will help to (contribute to)	3	0	0	0	0	0	3	0	0	0	0	0
16	einen Rekord zu brechen	break a record	4	0	0	0	0	0	4	0	0	0	0	0
17	klingt sie nicht gerade begeistert	she does not sound too enthusiastic	4	0	0	0	0	0	0	0	0	0	0	0
18	Es klingt wie	it sounds like	1	0	0	0	0	0	0	0	0	0	0	0
19	mitmachen und obsitzen	participate and sit out	2	0	0	0	0	0	2	0	0	0	0	2
20	Hier wird kein Fest angesteuert	No festival is being celebrated here	1	0	0	0	0	0	0	0	0	0	0	0
21	sondern eine Hypnose	rather, a hypnosis	3	0	0	0	0	0	0	0	0	0	0	0
22	Für Maria steht der Termin	For Maria the date was	4	4	0	4	0	4	4	4	4	4	4	4
23	seit Wochen fest	was fixed for weeks	4	0	0	0	0	0	4	0	0	0	0	0
24	auf einem Plakat	on a placard (poster, sign, billboard)	3	0	0	3	0	0	0	3	0	0	0	0
25	drei Stockwerke hoch	three stores high	1	0	0	0	1	0	0	0	0	0	1	1
26	über Times Square	over Times Square	2	0	0	0	0	0	0	0	0	0	2	0
27	schwarz auf gelb	black on yellow	1	0	0	0	0	0	0	0	0	0	1	0
28	Batman kehrt zurück	Batman returns	4	0	0	4	0	0	0	0	0	0	0	0
29	Der Film	the film	4	4	4	4	4	4	4	4	4	4	0	0
30	Batman	Batman	3	0	0	0	0	0	0	0	0	0	0	0
31	die Geldmaschine	the money machine	4	0	0	0	4	0	0	0	0	0	0	0
32	spuckt wieder	spits again	2	0	0	0	0	0	0	0	0	0	0	0
33	Bereits im ersten Anlauf	Already in the first run	3	0	0	0	3	0	3	0	0	0	0	0
34	vor zwei Jahren	two years ago	3	0	3	0	0	0	0	0	0	0	0	0
35	hatte der Mann	had the man	3	0	0	0	3	3	0	0	0	0	0	3
36	mit der Fledermausmaske	with the Bat mask	1	0	0	0	0	1	0	0	0	0	0	0

Scoring of Batman Article

Batman Article Propositional Analysis Chart

> > Foerg Test Analysis < <

Prop	German	English	Val	Sub #	91	92	93	94	95	96	97	98	99	100
37	Platz sechs	sixth place	1	0	0	0	0	0	0	0	0	0	0	0
38	in der Liste der besten Filme aller Z	in the list of best films of all time	3	0	0	0	0	3	3	0	0	3	3	
39	geschafft	achieved	2	0	0	2	0	2	0	2	0	0	0	0
40	Nun spielte die Fortsetzung	Now the continuation plays (produced)	4	0	0	0	0	0	0	0	0	0	0	0
41	schon am ersten Wochenende	already on the first weekend	2	0	0	2	0	0	0	0	0	2	0	0
42	46,5 Millionen Dollar ein	46.5 million dollars in sales	3	0	0	3	0	3	0	3	3	3	0	0
43	Weltrekord	world record	4	4	0	0	0	4	4	0	0	4	0	0
44	Alle amerikanischen Kinder	All American children	4	0	0	4	4	4	4	0	0	0	0	0
45	seit 1939	since 1939	1	0	0	1	1	1	1	0	0	0	0	0
46	sind mit Batman groß geworden	grew up with Batman	4	0	0	0	0	0	0	4	0	0	0	0
47	Der Fledermauslyp	the Bat figure	1	0	0	0	0	0	0	1	0	0	0	0
48	mit der tragischen Kindheit	with the tragic childhood	3	0	0	0	0	0	0	0	0	0	0	0
49	ist ein schüchtern einsamer Mensch	is a shy, lonely person	4	0	0	0	0	4	0	4	0	0	0	0
50	der sich verwandelt	who transforms himself	2	0	0	0	0	2	0	2	0	0	0	0
51	wenn er sich die Maske überstülpt	when he dons the mask	2	0	0	0	0	0	0	0	0	0	0	0
52	Batman	Batman	1	0	0	0	0	0	0	0	0	0	0	0
53	tagsüber	by day	2	2	0	0	0	0	0	0	0	0	0	0
54	braver Bürger	good citizen	2	2	0	0	0	0	0	2	0	0	0	0
55	ist der Lotse	is the pilot	3	3	0	0	0	0	0	0	0	0	0	0
56	durch die Schattenwelt	through the shadow world	2	0	0	2	2	2	0	0	0	0	0	0
Totals			138											
				Automatic	33	11	44	27	59	58	47	21	24	23
				Manual										

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart															
>> Computer Analysis <<															
			Sub #	1	2	3	4	5	6	7	8	9	10	11	12
Prop	German	English	Val												
1	Prof. Dr. E. Buchter-Bernhardt	Prof. Dr. E. Buchter Bernhardt	1	0	0	0	0	0	0	0	0	0	0	0	0
2	227 Arps Hall	227 Arps Hall	1	0	0	0	0	0	0	0	0	0	0	0	0
3	1945 N. High Street	1945 N. High Street	1	0	0	0	0	0	0	0	0	0	0	0	0
4	The Ohio State University	The Ohio State University	1	0	0	0	0	0	0	0	0	0	0	0	0
5	Columbus, OH 43210	Columbus, OH 43210	1	0	0	0	0	0	0	0	0	0	0	0	0
6	USA	USA	1	0	0	0	0	0	0	1	0	0	0	0	0
7	Liebe Frau Buchter-Bernhardt	Dear Frau Buchter-Bernhardt	1	0	0	0	0	0	0	0	1	1	1	1	1
8	in der Anlage	in the enclosure	1	1	1	0	0	0	0	0	1	1	1	0	1
9	finden Sie die Dinge	you will find the things	3	3	3	3	0	0	0	3	0	3	3	3	3
10	die ich Ihnen	that I . . . you	2	2	2	2	0	0	0	2	2	2	2	2	2
11	in Newark	in Newark	2	2	2	2	0	0	0	2	0	2	2	0	2
12	versprochen habe	promised	3	3	3	0	0	0	3	0	0	3	3	0	3
13	Wenn Sie	If you	3	3	3	0	0	0	3	0	3	0	3	3	3
14	an dem einen	about one	2	0	0	0	0	0	0	0	2	0	0	0	0
15	odern andern	or another	2	2	0	0	0	0	0	0	0	0	0	0	0
16	von uns	from us	2	0	0	0	0	0	0	0	2	0	2	0	0
17	interessiert sein sollten	should be interested	3	0	0	0	0	0	0	3	0	0	0	3	3
18	konnen wir dies	we can . . . that	2	2	2	2	0	2	2	2	2	2	2	2	2
19	gerne kopieren	gladly copy	3	3	3	0	0	3	0	0	0	0	3	3	0
20	unnötig zu sagen	needless to say	1	0	0	0	0	0	0	0	0	0	0	0	0
21	dass es grossen Sposs gemac	it was very fun to	3	0	3	0	0	0	0	0	0	0	0	0	0
22	Sie kennenzulernen	to meet you	3	3	3	0	0	0	0	0	3	0	0	0	3
23	mit Ihnen zu plaudern	and chat with you	2	0	2	0	0	0	0	0	0	0	0	0	0
24	und gemeinsame Interessen	and common interests	2	0	0	0	0	0	0	0	0	0	0	0	0
25	und Bekannte	and acquaintances	2	0	0	0	0	0	0	0	0	0	0	0	0
26	zu entdecken	to discover	2	0	0	0	0	0	0	0	0	0	0	2	0
27	Ob Sie so nett sein konnten	If you would be so kind	2	2	0	0	0	0	0	0	0	2	0	0	2
28	mir bei Gelegenheit	when you have an opportunit	1	1	0	0	0	0	0	0	1	1	0	0	1
29	den Namen	the names	3	3	0	0	0	0	0	0	0	0	0	0	0
30	und die Adresse	and the address	3	3	3	0	0	0	0	0	3	0	0	0	3
31	Ihres Mitarbeiters	of your colleague	3	3	0	0	0	0	0	0	0	0	0	0	0
32	der jetzt ist	who is now	3	0	3	0	0	0	0	0	0	0	0	0	3
33	in Virginia	in Virginia	3	3	3	0	0	0	0	0	3	0	0	0	3
34	mitzuteilen	inform	3	0	0	0	0	0	0	0	0	0	0	0	0
35	damit ich auch ihm	so that I can also him	3	3	3	0	0	0	0	0	3	3	0	0	3
36	die versprochenen Materialien	the promised materials	2	0	2	0	0	0	0	0	0	0	0	0	2
37	schicken kann	can send	3	3	0	0	0	0	0	3	3	0	0	0	3
38	Ich vergass	I forgot	2	2	0	0	0	0	0	0	0	0	0	0	0
39	mir seine Adresse	me . . . his address	2	0	0	0	0	0	0	0	0	0	0	0	0
40	aufzuschreiben	to write down	2	0	0	0	0	0	0	0	0	0	0	0	0

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																
>> Computer Analysis <<																
			Sub #	1	2	3	4	5	6	7	8	9	10	11	12	
Prop	German	English	Val													
41	Mit den besten Grüßen	With the best greetings	1	0	1	1	0	0	0	0	0	1	0	0	0	
42	und allen guten Wünschen	and all good wishes	1	1	1	1	0	0	0	0	0	1	0	0	0	
43	bin ich	I am	1	0	0	0	0	0	1	0	0	0	0	0	0	
44	Ihr	your (signature)	1	0	0	0	0	0	0	0	0	0	0	0	0	
45	Dr. H. Schwarz	Dr. H. Schwartz	1	0	0	0	0	0	0	0	0	0	0	0	0	
		Totals	90													
		Automatic		48	43	11	0	5	9	16	29	22	22	19	43	

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[illegible]

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																			
>> Computer Analysis <<																			
			Sub #	13	14	15	16	17	18	19	20	21	22	23	24				
Prop	German	English	Val																
41	Mit den besten Grüßen	With the best greetings	1	0	0	0	0	0	0	1	1	0	0	0	0				
42	und allen guten Wünschen	and all good wishes	1	0	0	0	0	0	1	1	0	0	0	0	0				
43	bin ich	I am	1	0	0	0	0	0	0	0	0	0	0	0	0				
44	Ihr	your (signature)	1	0	0	0	0	0	0	0	0	0	0	0	0				
45	Dr. H. Schwartz	Dr. H. Schwartz	1	0	0	0	0	0	0	0	0	0	0	0	0				
		Totals	90																
		Automatic		6	22	17	41	22	47	51	38	22	40	5	24				

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[illegible]

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																	
> > Computer Analysis < <																	
			Sub #	25	26	27	28	29	30	31	32	33	34	35	36		
Prop	German	English	Val														
41	Mit den besten Grüßen	With the best greetings	1	0	0	0	0	0	0	0	0	0	0	0	0		
42	und allen guten Wünschen	and all good wishes	1	0	1	0	1	0	0	1	0	0	0	0	1		
43	bin ich	I am	1	0	1	0	1	0	0	1	0	0	0	0	1		
44	Ihr	your (signature)	1	0	0	0	0	0	0	0	0	0	0	0	0		
45	Dr. H. Schwartz	Dr. H. Schwartz	1	0	0	0	0	0	0	0	0	0	0	0	0		
		Totals	90														
		Automatic		21	20	12	30	15	6	18	0	15	33	10	15		

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																		
>> Computer Analysis <<																		
			Sub #	37	38	39	40	41	42	43	44	45	46	47	48			
Prop	German	English	Val															
1	Prof. Dr. E. Buchter-Bernhardt	Prof. Dr. E. Buchter Bernhardt	1	1	0	0	0	0	1	0	1	0	0	0	0			
2	227 Arps Hall	227 Arps Hall	1	0	0	0	0	0	0	0	0	0	0	0	0			
3	1945 N. High Street	1945 N. High Street	1	0	0	0	0	0	0	0	0	0	0	0	0			
4	The Ohio State University	The Ohio State University	1	0	0	1	0	0	1	0	0	0	1	0	0			
5	Columbus, OH 43210	Columbus, OH 43210	1	0	0	0	0	0	0	0	0	0	0	0	0			
6	USA	USA	1	0	0	0	0	0	0	0	0	0	0	0	0			
7	Liebe Frau Buchter-Bernhardt	Dear Frau Buchter-Bernhardt	1	0	0	0	0	1	0	1	0	0	0	0	0			1
8	in der Anlage	in the enclosure	1	1	0	0	1	0	0	0	0	0	0	0	0			0
9	finden Sie die Dinge	you will find the things	3	0	3	0	3	0	0	3	0	3	0	0	0			0
10	die ich Ihnen	that I . . . you	2	2	2	0	0	2	0	2	0	2	0	0	0			2
11	in Newark	in Newark	2	2	0	0	0	2	2	2	0	2	0	0	0			2
12	versprochen habe	promised	3	3	0	0	0	3	0	0	3	0	0	0	0			3
13	Wenn Sie	If you	3	3	3	0	0	3	0	3	0	3	3	0	0			3
14	an dem einen	about one	2	2	0	0	0	0	0	0	2	0	0	0	0			0
15	odern andern	or another	2	0	0	2	0	0	0	0	0	0	2	0	0			0
16	von uns	from us	2	2	0	0	0	0	0	0	0	0	0	0	0			2
17	interessiert sein sollten	should be interested	3	0	0	0	0	0	0	3	0	3	0	0	0			0
18	können wir dies	we can . . . that	2	2	2	2	0	2	0	2	2	2	0	0	0			0
19	gerne kopieren	gladly copy	3	0	0	0	3	0	0	3	0	3	0	0	0			0
20	unnötig zu sagen	needless to say	1	0	0	0	0	0	0	0	0	0	0	0	0			0
21	dass es grossen Spass gemacht hat	it was very fun to	3	0	0	0	0	3	0	0	0	3	0	3	0			0
22	Sie kennenzulernen	to meet you	3	3	0	0	0	0	0	0	0	0	3	0	3			3
23	mit Ihnen zu plaudern	and chat with you	2	0	0	0	0	0	0	0	0	0	2	2	2			2
24	und gemeinsame Interessen	and common interests	2	0	0	0	2	0	0	0	0	0	0	0	0			0
25	und Bekannte	and acquaintances	2	0	0	0	0	0	0	0	0	0	0	0	0			0
26	zu entdecken	to discover	2	0	0	2	0	0	0	2	0	0	0	0	0			0
27	Ob Sie so nett sein könnten	If you would be so kind	2	0	2	2	2	2	2	0	2	2	0	0	0			2
28	mir bei Gelegenheit	when you have an opportunity	1	0	1	1	1	1	1	0	1	1	0	0	1			1
29	den Namen	the names	3	0	0	0	0	3	3	0	0	3	3	0	0			0
30	und die Adresse	and the address	3	0	0	3	0	0	0	0	0	0	0	0	0			0
31	Ihres Mitarbeiters	of your colleague	3	0	0	0	3	0	3	0	3	3	3	0	0			0
32	der jetzt ist	who is now	3	0	0	0	3	0	0	0	0	3	0	0	3			0
33	in Virginia	in Virginia	3	0	3	3	3	3	0	0	0	3	0	0	0			0
34	mitzuteilen	inform	3	0	0	0	0	0	0	0	0	0	0	0	0			0
35	damit ich auch ihm	so that I can also him	3	0	3	3	0	3	3	3	3	3	0	0	3			3
36	die versprochenen Materialien	the promised materials	2	0	2	0	0	2	0	0	2	0	0	0	0			0
37	schicken kann	can send	3	0	0	0	0	0	3	0	3	3	0	0	3			3
38	Ich vergass	I forgot	2	0	0	0	0	2	2	0	2	0	0	0	0			0
39	mir seine Adresse	me . . . his address	2	0	0	0	0	2	2	0	0	0	0	0	0			0
40	aufzuschreiben	to write down	2	0	0	0	2	2	0	0	0	0	0	0	0			2

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																	
>> Computer Analysis <<																	
			Sub #	37	38	39	40	41	42	43	44	45	46	47	48		
Prop	German	English	Val														
41	Mit den besten Grüßen	With the best greetings	1	1	0	0	0	1	1	0	1	0	0	0	1		
42	und allen guten Wünschen	and all good wishes	1	1	0	0	0	1	1	0	1	1	1	0	0		
43	bin ich	I am	1	0	0	0	1	1	0	0	0	0	1	0	1		
44	Ihr	your (signature)	1	0	0	0	1	0	0	0	0	1	0	0	1		
45	Dr. H. Schwartz	Dr. H. Schwartz	1	0	0	0	0	0	0	0	0	0	0	0	1		
		Totals	90														
		Automatic		23	21	19	25	39	25	24	26	44	19	5	36		

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																			
>> Computer Analysis <<																			
			Sub #	49	50	51	52	53	54	55	56	57	58	59	60				
Prop	German	English	Val																
1	Prof. Dr. E. Buchter-Bernhardt	Prof. Dr. E. Buchter Bernhardt	1	0	0	0	1	0	0	0	0	0	0	0	0				
2	227 Arps Hall	227 Arps Hall	1	0	0	0	0	0	0	0	0	0	0	0	0				
3	1945 N. High Street	1945 N. High Street	1	0	0	0	0	0	0	0	0	0	0	0	0				
4	The Ohio State University	The Ohio State University	1	0	0	0	0	0	0	0	0	0	0	0	1	0			
5	Columbus, OH 43210	Columbus, OH 43210	1	0	0	0	0	0	0	0	0	0	0	0	0				
6	USA	USA	1	0	0	0	0	0	0	0	0	0	0	0	0				
7	Liebe Frau Buchter-Bernhardt	Dear Frau Buchter-Bernhardt	1	0	1	0	1	1	0	0	0	0	1	0	1				
8	in der Anlage	in the enclosure	1	0	0	1	1	1	1	0	0	1	1	0	1				
9	finden Sie die Dinge	you will find the things	3	3	3	3	3	3	3	0	0	3	3	0	3				
10	die ich Ihnen	that I . . . you	2	0	2	2	2	2	2	0	0	0	2	0	2				
11	in Newark	in Newark	2	2	2	0	2	2	2	2	0	0	0	0	2				
12	versprochen habe	promised	3	3	0	3	3	3	3	3	0	0	0	0	0				
13	Wenn Sie	If you	3	3	3	3	3	3	3	0	0	0	0	0	3	3			
14	an dem einen	about one	2	0	0	0	2	0	0	2	0	0	0	0	2	0			
15	odern andern	or another	2	0	0	2	0	0	0	0	0	0	0	0	2	0			
16	von uns	from us	2	0	0	0	2	0	0	2	0	0	0	0	2	0			
17	interessiert sein sollten	should be interested	3	3	3	3	0	0	0	0	0	0	0	0	0	3			
18	konnen wir dies	we can . . . that	2	2	2	2	2	2	2	2	2	0	0	0	2				
19	gerne kopieren	gladly copy	3	3	0	0	3	3	3	0	3	0	3	0	0				
20	unnötig zu sagen	needless to say	1	1	0	0	1	0	0	0	0	0	0	0	0				
21	dass es grossen Spass gemacht hat	it was very fun to	3	0	3	0	0	3	0	0	3	0	0	0	0				
22	Sie kennenzulernen	to meet you	3	3	3	0	0	3	3	0	0	0	0	3	0				
23	mit Ihnen zu plaudern	and chat with you	2	2	2	0	0	2	0	0	0	0	0	0	2	0			
24	und gemeinsame Interessen	and common interests	2	0	0	2	0	2	0	0	0	0	0	0	2	0			
25	und Bekannte	and acquaintances	2	0	0	0	0	0	0	0	0	0	0	0	0				
26	zu entdecken	to discover	2	0	0	0	2	0	0	0	0	0	0	0	0				
27	Ob Sie so nett sein könnten	If you would be so kind	2	2	2	0	2	2	2	2	2	0	0	2	2				
28	mir bei Gelegenheit	when you have an opportunity	1	1	1	1	1	1	1	1	1	0	0	0	1				
29	den Namen	the names	3	0	3	3	0	0	0	0	0	0	0	0	0				
30	und die Adresse	and the address	3	0	0	0	0	0	0	0	0	0	0	0	0				
31	Ihres Mitarbeiters	of your colleague	3	0	3	0	0	3	3	3	0	0	0	0	3	0			
32	der jetzt ist	who is now	3	0	0	0	0	0	0	0	0	0	0	0	0				
33	in Virginia	in Virginia	3	0	3	0	3	0	3	0	0	0	0	0	3	0			
34	mitzuteilen	inform	3	0	0	3	3	0	0	3	0	0	0	0	3	0			
35	damit ich auch ihm	so that I can also him	3	0	3	3	3	3	3	0	0	0	0	0	3	0			
36	die versprochenen Materialien	the promised materials	2	0	0	0	2	0	2	0	0	0	0	0	0				
37	schicken kann	can send	3	0	0	0	3	3	3	3	0	0	3	0	3				
38	Ich vergass	I forgot	2	0	0	0	0	2	2	0	0	0	2	0	2				
39	mir seine Adresse	me . . . his address	2	2	0	2	0	2	2	0	0	0	0	2	0				
40	aufzuschreiben	to write down	2	0	2	2	0	0	0	0	0	0	0	0	0				

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																	
> > Computer Analysis < <																	
			Sub #	49	50	51	52	53	54	55	56	57	58	59	60		
Prop	German	English	Val														
41	Mit den besten Grüßen	With the best greetings	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0
42	und allen guten Wünschen	and all good wishes	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0
43	bin ich	I am	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
44	Ihr	your (signature)	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0
45	Dr. H. Schwartz	Dr. H. Schwartz	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
		Totals	90														
		Automatic		30	45	37	48	48	43	23	11	4	18	30	25		

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																
>> Computer Analysis <<																
			Sub #	61	62	63	64	65	66	67	68	69	70	71	72	
Prop	German	English	Val													
1	Prof. Dr. E. Buchter-Bernhardt	Prof. Dr. E. Buchter Bernhardt	1	1	0	0	0	0	1	0	0	0	0	0	0	
2	227 Arps Hall	227 Arps Hall	1	0	0	0	0	0	0	0	0	0	0	0	0	
3	1945 N. High Street	1945 N. High Street	1	0	0	0	0	0	0	0	0	0	0	0	0	
4	The Ohio State University	The Ohio State University	1	0	0	0	0	0	0	0	0	0	0	0	0	
5	Columbus, OH 43210	Columbus, OH 43210	1	0	0	0	0	0	0	0	0	0	0	0	0	
6	USA	USA	1	0	0	0	1	0	0	0	0	0	0	0	0	
7	Liebe Frau Buchter-Bernhardt	Dear Frau Buchter-Bernhardt	1	1	1	1	0	0	1	0	1	1	1	1	1	0
8	in der Anlage	in the enclosure	1	1	1	1	0	1	1	1	1	0	1	0	0	
9	finden Sie die Dinge	you will find the things	3	3	0	3	3	3	3	3	3	3	3	0	0	
10	die ich Ihnen	that I . . . you	2	2	2	2	2	2	2	2	2	2	2	2	2	
11	in Newark	in Newark	2	0	0	0	0	2	0	0	2	2	2	0	2	
12	versprochen habe	promised	3	3	3	0	0	3	3	3	3	3	3	0	3	
13	Wenn Sie	If you	3	3	0	0	0	0	3	3	3	0	3	3	3	
14	an dem einen	about one	2	0	0	2	0	0	0	2	0	0	0	2	0	
15	odern andern	or another	2	2	0	0	0	0	0	0	2	0	0	0	0	
16	von uns	from us	2	0	0	2	0	2	0	0	0	0	0	0	2	
17	interessiert sein sollten	should be interested	3	0	3	0	0	0	3	3	0	0	3	0	0	
18	können wir dies	we can . . . that	2	2	2	0	2	2	2	2	2	2	2	2	2	
19	gerne kopieren	gladly copy	3	0	0	3	0	3	3	3	3	0	3	0	0	
20	unnötig zu sagen	needless to say	1	0	0	0	0	1	0	1	1	0	0	0	0	
21	dass es grossen Spass gemacht hat	it was very fun to	3	0	3	0	3	3	0	3	3	3	3	0	0	
22	Sie kennenzulernen	to meet you	3	0	3	0	0	0	0	3	3	3	3	3	0	
23	mit Ihnen zu plaudern	and chat with you	2	0	0	0	0	2	0	2	2	0	2	0	0	
24	und gemeinsame Interessen	and common interests	2	0	0	0	2	2	0	0	0	0	0	0	0	
25	und Bekannte	and acquaintances	2	0	0	0	0	0	0	0	0	0	0	0	0	
26	zu entdecken	to discover	2	0	0	0	0	0	0	0	2	0	0	0	2	
27	Ob Sie so nett sein könnten	If you would be so kind	2	2	2	2	2	2	2	2	2	0	2	2	2	
28	mir bei Gelegenheit	when you have an opportunity	1	1	0	1	1	1	1	1	1	0	1	1	1	
29	den Namen	the names	3	0	3	0	0	0	0	0	3	0	3	0	0	
30	und die Adresse	and the address	3	0	0	0	0	0	0	0	0	0	0	0	0	
31	Ihres Mitarbeiters	of your colleague	3	0	3	0	0	0	3	3	0	0	3	3	3	
32	der jetzt ist	who is now	3	0	0	0	0	0	0	0	0	0	3	0	0	
33	in Virginia	in Virginia	3	0	3	3	3	0	3	0	3	0	3	3	0	
34	mitzuteilen	inform	3	0	3	0	0	0	0	0	3	0	0	0	3	
35	damit ich auch ihm	so that I can also him	3	0	3	0	0	0	3	3	3	0	3	3	3	
36	die versprochenen Materialien	the promised materials	2	0	2	0	0	0	2	2	0	0	2	2	0	
37	schicken kann	can send	3	0	3	0	3	3	3	3	3	0	0	0	0	
38	Ich vergass	I forgot	2	0	2	0	0	0	2	0	0	0	0	0	2	
39	mir seine Adresse	me . . . his address	2	0	0	0	0	0	0	0	0	0	0	0	0	
40	aufzuschreiben	to write down	2	0	2	0	0	0	0	0	0	0	0	0	2	

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																
>> Computer Analysis <<																
			Sub #	61	62	63	64	65	66	67	68	69	70	71	72	
Prop	German	English	Val													
41	Mit den besten Grüßen	With the best greetings	1	0	0	0	0	0	0	0	0	1	0	0	0	
42	und allen guten Wünschen	and all good wishes	1	0	0	0	0	1	0	0	1	1	0	0	0	
43	bin ich	I am	1	0	0	0	0	0	0	0	0	0	0	0	0	
44	Ihr	your (signature)	1	0	0	0	0	0	0	0	0	0	0	0	0	
45	Dr. H. Schwartz	Dr. H. Schwartz	1	0	0	0	0	1	0	0	0	0	0	0	0	
		Totals	90													
		Automatic		21	44	20	22	34	41	45	52	21	51	27	32	

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart															
>> Computer Analysis <<															
			Sub #	73	74	75	76	77	78	79	80	81	82	83	84
Prop	German	English	Val												
1	Prof. Dr. E. Buchter-Bernhardt	Prof. Dr. E. Buchter Bernhardt	1	1	0	1	0	0	0	0	0	0	0	0	0
2	227 Arps Hall	227 Arps Hall	1	0	0	0	0	0	0	0	0	0	0	0	0
3	1945 N. High Street	1945 N. High Street	1	0	0	0	0	0	0	0	0	0	0	0	0
4	The Ohio State University	The Ohio State University	1	0	0	1	0	0	0	0	0	0	0	0	0
5	Columbus, OH 43210	Columbus, OH 43210	1	0	0	0	0	0	0	0	0	0	0	0	0
6	USA	USA	1	0	0	0	0	0	0	0	0	0	0	0	0
7	Liebe Frau Buchter-Bernhardt	Dear Frau Buchter-Bernhardt	1	1	0	1	0	1	1	0	0	1	0	1	0
8	in der Anlage	in the enclosure	1	1	1	1	1	1	1	1	0	1	1	0	1
9	finden Sie die Dinge	you will find the things	3	3	0	3	3	3	3	3	0	0	3	3	3
10	die ich Ihnen	that I . . . you	2	2	0	2	2	2	0	2	0	2	2	2	2
11	in Newark	in Newark	2	2	2	0	2	0	0	0	0	0	2	2	0
12	versprochen habe	promised	3	3	0	0	3	3	3	3	0	3	3	0	3
13	Wenn Sie	If you	3	3	3	3	3	3	3	3	0	3	3	0	0
14	an dem einen	about one	2	2	0	2	0	0	2	0	0	0	2	2	0
15	odern andern	or another	2	0	0	0	0	0	0	2	0	2	2	2	0
16	von uns	from us	2	2	0	0	0	0	0	0	0	0	0	0	0
17	interessiert sein sollten	should be interested	3	3	3	0	0	3	0	0	0	3	0	0	0
18	können wir dies	we can . . . that	2	2	2	2	2	2	2	2	0	2	2	2	0
19	gerne kopieren	gladly copy	3	3	0	0	3	0	0	3	0	3	3	0	0
20	unnötig zu sagen	needless to say	1	0	0	0	0	0	0	0	0	1	0	0	0
21	dass es grossen Spass gemacht	it was very fun to	3	0	0	0	0	3	3	0	0	3	3	0	0
22	Sie kennenzulernen	to meet you	3	3	3	0	0	3	3	0	0	3	0	0	0
23	mit Ihnen zu plaudern	and chat with you	2	2	2	0	0	0	2	0	0	0	0	0	0
24	und gemeinsame Interessen	and common interests	2	0	0	0	0	0	0	0	0	0	0	0	0
25	und Bekannte	and acquaintances	2	0	0	0	0	0	0	0	0	0	0	0	0
26	zu entdecken	to discover	2	0	0	0	2	0	2	2	0	0	0	0	0
27	Ob Sie so nett sein könnten	If you would be so kind	2	2	2	2	0	0	0	2	0	0	0	0	0
28	mir bei Gelegenheit	when you have an opportunity	1	1	0	0	1	0	0	0	0	0	0	1	0
29	den Namen	the names	3	0	3	3	0	3	0	0	0	0	0	0	0
30	und die Adresse	and the address	3	0	0	0	0	0	0	0	0	0	0	0	0
31	Ihres Mitarbeiters	of your colleague	3	3	3	3	3	3	3	0	0	0	3	0	0
32	der jetzt ist	who is now	3	3	0	0	0	3	0	0	0	0	0	0	0
33	in Virginia	in Virginia	3	0	0	3	3	0	0	0	0	0	0	3	0
34	mitzuteilen	inform	3	0	0	0	3	0	0	0	0	0	0	3	0
35	damit ich auch ihm	so that I can also him	3	3	0	3	3	3	3	0	0	0	3	3	0
36	die versprochenen Materialien	the promised materials	2	0	0	0	2	0	2	0	0	0	0	0	0
37	schicken kann	can send	3	3	3	3	0	3	0	0	0	0	0	0	0
38	Ich vergass	I forgot	2	2	0	0	0	0	0	0	0	0	0	0	0
39	mir seine Adresse	me . . . his address	2	0	0	0	0	0	0	0	0	0	0	0	0
40	aufzuschreiben	to write down	2	0	0	0	2	0	2	0	0	0	2	0	0

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart															
> > Computer Analysis < <															
			Sub #	73	74	75	76	77	78	79	80	81	82	83	84
Prop	German	English	Val												
41	Mit den besten Grüßen	With the best greetings	1	1	0	0	0	0	1	1	0	0	0	0	0
42	und allen guten Wünschen	and all good wishes	1	1	0	0	0	0	1	1	0	0	0	0	0
43	bin ich	I am	1	0	0	0	0	0	0	0	0	0	0	0	0
44	Ihr	your (signature)	1	1	0	0	0	1	0	0	0	0	0	0	0
45	Dr. H. Schwartz	Dr. H. Schwartz	1	1	0	0	0	0	0	0	0	0	0	0	0
		Totals	90												
		Automatic		54	27	33	38	40	37	25	0	27	34	24	9

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																	
>> Computer Analysis <<																	
			Sub #	85	86	87	88	89	90	91	92	93	94	95	96		
Prop	German	English	Val														
1	Prof. Dr. E. Buchter-Bernhardt	Prof. Dr. E. Buchter Bernhardt	1	0	0	0	0	0	0	1	0	0	0	0	0		
2	227 Arps Hall	227 Arps Hall	1	0	0	0	0	0	0	0	0	0	0	0	0		
3	1945 N. High Street	1945 N. High Street	1	0	0	0	0	0	0	0	0	0	0	0	0		
4	The Ohio State University	The Ohio State University	1	0	0	0	0	0	0	0	0	0	0	0	0		
5	Columbus, OH 43210	Columbus, OH 43210	1	0	0	0	0	0	0	0	0	0	0	0	0		
6	USA	USA	1	0	0	0	0	0	0	1	0	0	0	0	0		
7	Liebe Frau Buchter-Bernhardt	Dear Frau Buchter-Bernhardt	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
8	in der Anlage	in the enclosure	1	0	0	0	1	0	0	0	1	1	0	1	0		
9	finden Sie die Dinge	you will find the things	3	0	0	3	3	3	0	0	3	3	3	3	3		
10	die ich Ihnen	that I . . . you	2	0	2	2	2	2	0	0	2	2	0	0	2		
11	in Newark	in Newark	2	0	0	2	0	2	2	0	2	2	2	0	2		
12	versprochen habe	promised	3	3	0	3	0	3	0	0	3	3	0	0	3		
13	Wenn Sie	If you	3	3	3	3	3	0	0	3	3	3	0	3	3		
14	an dem einen	about one	2	0	2	0	0	0	0	0	2	0	2	2	0		
15	odern andern	or another	2	2	0	0	0	0	2	0	0	0	0	0	2		
16	von uns	from us	2	2	2	0	0	0	2	0	0	0	0	0	2		
17	interessiert sein sollten	should be interested	3	0	0	0	0	0	0	0	3	0	0	0	0		
18	können wir dies	we can . . . that	2	2	2	2	2	0	2	0	2	2	2	0	2		
19	gerne kopieren	gladly copy	3	0	0	0	3	0	0	0	0	0	0	0	3		
20	unnötig zu sagen	needless to say	1	0	0	0	0	0	1	0	0	0	0	0	1		
21	dass es grossen Spass gemacht hat	it was very fun to	3	0	0	0	0	0	3	0	3	0	0	3	0		
22	Sie kennenzulernen	to meet you	3	0	3	0	3	3	3	0	3	0	0	3	0		
23	mit Ihnen zu plaudern	and chat with you	2	0	2	0	0	2	2	0	2	0	0	2	2		
24	und gemeinsame Interessen	and common interests	2	0	0	0	0	0	0	0	0	0	0	0	2		
25	und Bekannte	and acquaintances	2	0	0	0	0	0	0	0	2	0	0	2	0		
26	zu entdecken	to discover	2	0	0	0	0	0	0	0	0	0	2	0	0		
27	Ob Sie so nett sein könnten	If you would be so kind	2	2	2	2	2	0	0	2	0	2	2	2	0		
28	mir bei Gelegenheit	when you have an opportunity	1	1	1	0	1	0	1	1	1	1	1	1	0		
29	den Namen	the names	3	3	0	3	0	0	3	0	0	3	0	3	0		
30	und die Adresse	and the address	3	0	0	0	0	0	0	0	0	0	0	0	0		
31	Ihres Mitarbeiters	of your colleague	3	0	0	0	3	0	3	3	0	0	3	0	3		
32	der jetzt ist	who is now	3	0	0	0	0	0	0	0	0	3	0	0	0		
33	in Virginia	in Virginia	3	0	0	0	3	0	0	0	0	3	0	0	3		
34	mitzuteilen	inform	3	3	3	3	3	0	3	0	0	0	3	3	3		
35	damit ich auch ihm	so that I can also him	3	3	3	3	3	0	3	3	3	0	0	3	3		
36	die versprochenen Materialien	the promised materials	2	0	0	0	0	0	0	0	0	0	0	0	2		
37	schicken kann	can send	3	3	0	3	3	0	3	0	0	0	0	3	3		
38	Ich vergass	I forgot	2	0	0	2	2	0	0	0	0	0	0	2	2		
39	mir seine Adresse	me . . . his address	2	2	0	0	0	0	0	2	0	0	0	0	0		
40	aufzuschreiben	to write down	2	0	2	0	0	0	0	0	0	0	0	0	0		

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart																
> > Computer Analysis < <																
			Sub #	85	86	87	88	89	90	91	92	93	94	95	96	
Prop	German	English	Val													
41	Mit den besten Grüßen	With the best greetings	1	0	1	0	0	0	1	0	0	0	0	1	1	
42	und allen guten Wünschen	and all good wishes	1	0	1	0	1	0	1	0	1	0	0	0	1	
43	bin ich	I am	1	0	0	0	0	0	0	0	1	0	0	0	0	
44	Ihr	your (signature)	1	0	0	0	0	0	0	0	0	0	0	0	0	
45	Dr. H. Schwartz	Dr. H. Schwartz	1	0	0	0	0	0	0	0	0	0	0	0	0	
		Totals	90													
		Automatic		29	29	31	38	15	35	16	37	28	20	38	48	

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart						
> > Computer Analysis < <						
			Sub #	97	98	99 100
Prop	German	English	Val			
1	Prof. Dr. E. Buchter-Bernhardt	Prof. Dr. E. Buchter Bernhardt	1	0	0	0 0
2	227 Arps Hall	227 Arps Hall	1	0	0	0 0
3	1945 N. High Street	1945 N. High Street	1	0	0	0 0
4	The Ohio State University	The Ohio State University	1	0	0	0 0
5	Columbus, OH 43210	Columbus, OH 43210	1	0	0	0 0
6	USA	USA	1	0	0	0 0
7	Liebe Frau Buchter-Bernhardt	Dear Frau Buchter-Bernhardt	1	1	0	1 0
8	in der Anlage	in the enclosure	1	0	0	0 0
9	finden Sie die Dinge	you will find the things	3	0	3	3 0
10	die ich Ihnen	that I . . . you	2	2	0	2 2
11	in Newark	in Newark	2	2	0	0 2
12	versprochen habe	promised	3	0	3	0 3
13	Wenn Sie	If you	3	3	3	0 0
14	an dem einen	about one	2	2	2	0 0
15	odern andern	or another	2	2	2	0 0
16	von uns	from us	2	0	0	0 0
17	interessiert sein sollten	should be interested	3	0	0	0 0
18	können wir dies	we can . . . that	2	2	2	2 0
19	gerne kopieren	gladly copy	3	3	0	3 0
20	unnötig zu sagen	needless to say	1	1	0	0 0
21	dass es grossen Spass gemacht	it was very fun to	3	3	3	3 0
22	Sie kennenzulernen	to meet you	3	0	0	3 0
23	mit Ihnen zu plaudern	and chat with you	2	0	0	0 0
24	und gemeinsame Interessen	and common interests	2	0	0	0 0
25	und Bekannte	and acquaintances	2	0	0	0 0
26	zu entdecken	to discover	2	2	2	2 0
27	Ob Sie so nett sein könnten	If you would be so kind	2	2	2	2 0
28	mir bei Gelegenheit	when you have an opportunity	1	1	1	1 0
29	den Namen	the names	3	0	0	0 0
30	und die Adresse	and the address	3	0	0	0 0
31	Ihres Mitarbeiters	of your colleague	3	3	0	3 0
32	der jetzt ist	who is now	3	3	0	0 0
33	in Virginia	in Virginia	3	3	0	0 3
34	mitzuteilen	inform	3	0	3	3 0
35	damit ich auch ihm	so that I can also him	3	3	3	0 0
36	die versprochenen Materialien	the promised materials	2	2	0	0 0
37	schicken kann	can send	3	0	0	3 0
38	Ich vergass	I forgot	2	0	0	0 0
39	mir seine Adresse	me . . . his address	2	0	0	0 0
40	aufzuschreiben	to write down	2	0	2	2 0

Scoring of Bernhardt Letter

Bernhardt Letter Propositional Analysis Chart					
>> Computer Analysis <<					
		Sub #	97	98	99
Prop	German	English	Val		
41	Mit den besten Grüßen	With the best greetings	1	1	0
42	und allen guten Wünschen	and all good wishes	1	1	0
43	bin ich	I am	1	0	1
44	Ihr	your (signature)	1	1	0
45	Dr. H. Schwartz	Dr. H. Schwartz	1	1	0
		Totals	90		
		Automatic	44	32	35

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
> > Computer Analysis < <											
			Sub #	1	2	3	4	5	6	7	8
Prop	German	English	Val								
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0
3	Erst Packen	Pack first	4	0	0	0	0	0	0	0	0
4	Dann Buchen	then book (reserve)	4	0	0	0	0	0	0	0	0
5	So schnell kann es gehen	This is how fast it can happen	4	4	0	0	0	0	0	4	0
6	Am Dienstag letzter Woche	on Tuesday last week	1	1	1	1	0	0	0	0	0
7	dachte Peter Frisch	Peter Frisch thought	1	1	1	0	0	0	0	0	0
8	nach darüber nach	still over that	1	1	0	0	0	0	0	1	0
9	ob er sich einen Trip	if a trip he	4	4	4	4	0	0	4	4	0
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	0	0	0	4	4	4
11	Am Donnerstag	on Thursday	3	3	3	0	0	0	0	3	0
12	jettete er	he jetted	4	4	0	0	0	0	0	0	0
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	0
14	nach San Franzisko	to San Francisco	2	2	2	2	0	0	2	2	0
15	895 Mark fürs Ticket	895 Marks for the ticket	4	0	4	0	0	0	0	4	4
16	nach Kalifornien und zurück	to California and back	2	0	0	2	0	0	2	2	2
17	dieses Angebot	this offer	3	0	3	3	0	0	0	0	0
18	hatte den Münchner	had the Munich student	1	0	0	0	0	0	0	1	1
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	0	0	0	0	0	3
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	1	0	0	0	0	0	0	0
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	0	0	0	0	0	0
22	um so billig	in order to so cheaply	3	0	0	0	0	0	0	0	0
23	um die halbe Welt zu jetten	jet half way around the world	3	3	0	0	0	0	0	0	0
24	Des Rätsels Lösung	This puzzles solution	1	0	0	0	0	0	0	0	0
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	0
28	hatte er sich	he did	2	0	0	0	0	0	0	0	0
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0
33	gings beim Münchner Studenten	it went for the Munich student	1	0	0	0	0	0	0	1	0
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
> > Computer Analysis < <													
			Sub #	1	2	3	4	5	6	7	8		
Prop	German	English	Val										
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	0	0	0	0	0	0	
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	0	0	0	0	
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	3	0	0	3	0	3		
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	4	0	0	4	0	0		
39	wohin die Reise gehen sollte	where the trip should go to	3	0	0	0	0	0	3	0	0		
40	Drei Stunden später	Three hours later	1	0	0	1	0	0	0	0	0		
41	saß ers schon im Jet	he already sat in a jet	3	0	0	3	0	0	3	3	0		
42	nach Eliot	to Eliot	2	0	0	0	0	0	0	0	0		
43	am Roten Meer	on the Red Sea	2	0	0	0	0	0	0	0	0		
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0		
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	2	0	0	0	0	0		
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	4	0	0	0	0	0	4	0		
47	am Flughafen	at the airport	1	1	0	1	0	0	0	1	1		
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	3	3	0	0	0	0	3		
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	3	0	0	0	0	3	0		
50	Ferienglück	dream cocations	2	0	0	2	0	0	0	2	2		
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0		
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0		
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0		
54	von Urlaubsreisen	of vacation travel packages	4	0	4	0	4	0	0	0	0		
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0		
56	noch fast unbekannt	still almost unknown	1	0	0	0	1	0	0	0	0		
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0		
		Totals	141										
		Automatic		33	32	31	5	0	25	39	23		
		Manual											

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	9	10	11	12	13	14	15	16		
Prop	German	English	Val										
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0		
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0		
3	Erst Packen	Pack first	4	0	0	4	0	0	0	0	0		
4	Dann Buchen	then book (reserve)	4	0	0	0	0	0	0	0	0		
5	So schnell kann es gehen	This is how fast it can happen	4	0	0	0	0	0	4	0	0		
6	Am Dienstag letzter Woche	on Tuesday last week	1	1	1	0	1	0	0	1	0		
7	dachte Peter Frisch	Peter Frisch thought	1	1	1	0	1	1	0	1	0		
8	noch darüber nach	still over that	1	1	0	0	0	1	0	1	0		
9	ob er sich einen Trip	if a trip he	4	4	4	4	0	4	4	4	4		
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	4	4	4	0	4	4		
11	Am Donnerstag	on Thursday	3	0	0	0	3	0	0	0	3		
12	jettete er	he jetted	4	4	0	0	4	0	0	0	0		
13	dann doch lieber	however, rather	1	1	0	0	0	0	0	0	0		
14	nach San Franzisko	to San Francisco	2	2	2	2	2	2	0	0	2		
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	4	4	0	0	0	0	4		
16	nach Kalifornien und zurück	to California and back	2	0	2	0	0	0	0	0	2		
17	dieses Angebot	this offer	3	0	0	0	3	0	0	0	0		
18	hatte den Münchner	had the Munich student	1	0	0	0	0	1	0	0	0		
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	0	0	3	0	0	0		
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	1	0	0	0	0	0	0	0		
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	0	0	0	0	0	0		
22	um so billig	in order to so cheaply	3	3	0	0	0	0	0	0	0		
23	um die halbe Welt zu jetten	jet half way around the world	3	3	0	0	0	0	3	0	3		
24	Des Rätsels Lösung	This puzzels solution	1	0	0	0	0	0	0	0	0		
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0		
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0		
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	0		
28	hatte er sich	he did	2	0	0	0	0	0	0	0	0		
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0		
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0		
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	1		
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0		
33	gings beim Münchner Studenten	it went for the Munich student	1	0	0	0	0	0	0	0	1		
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0		

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	9	10	11	12	13	14	15	16		
Prop	German	English	Val										
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	0	0	0	0	0		
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	0	0	0		
37	und fuhr zum Flughafen	and drove to the Airport	3	3	0	0	0	0	0	0	0	3	
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	0	0	0	0	0	0		
39	wohin die Reise gehen sollte	where the trip should go to	3	0	0	3	0	0	0	0	0		
40	Drei Stunden später	Three hours later	1	0	0	0	0	1	0	0	0		
41	saß ers schon im Jet	he already sat in a jet	3	0	0	3	0	0	0	0	0		
42	nach Elial	to Elial	2	0	0	0	0	0	0	0	0		
43	am Roten Meer	on the Red Sea	2	2	0	0	0	0	0	0	0		
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0		
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	0	2	0	0	0		
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	0	0	0	4	0	0	0		
47	am Flughafen	at the airport	1	0	0	0	1	1	0	0	1		
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	0	0	0	0	0	3	0		
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	3	3		
50	Ferienglück	dream vacations	2	0	0	0	0	0	0	0	0	2	
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0		
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0		
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0		
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	0	0	0	0	0		
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0		
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0		
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0		
		Totals	141										
		Automatic		34	18	24	19	24	11	17	33		
		Manual											

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	17	18	19	20	21	22	23	24		
Prop	German	English	Val										
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0		
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0		
3	Erst Packen	Pack first	4	0	0	0	0	0	0	0	0		
4	Dann Buchen	then book (reserve)	4	0	0	0	0	0	0	0	0		
5	So schnell kann es gehen	This is how fast it can happen	4	0	4	4	0	0	4	0	0		
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	1	1	0	0	1	1	0		
7	dachte Peter Frisch	Peter Frisch thought	1	0	1	1	1	0	0	1	0		
8	noch darüber nach	still over that	1	1	0	1	1	0	1	0	0		
9	ob er sich einen Trip	if a trip he	4	4	4	4	4	0	4	0	4		
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	4	4	0	4	4	0		
11	Am Donnerstag	on Thursday	3	0	3	3	0	0	3	3	3		
12	jettele er	he jelled	4	0	4	4	0	0	4	0	4		
13	dann doch lieber	however, rather	1	1	0	1	0	0	0	0	0		
14	nach San Franzisko	to San Francisco	2	2	2	2	0	0	2	0	2		
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	4	4	0	0	4	4	0		
16	nach Kalifornien und zurück	to California and back	2	2	2	2	2	0	2	2	0		
17	dieses Angebot	this offer	3	3	0	0	0	0	0	0	0		
18	hatte den Münchner	had the Munich student	1	1	1	1	1	0	0	0	0		
19	nicht lange zögern lassen	not caused to hesitate	3	0	3	0	0	0	3	0	0		
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	0	0	0	0	1	0	0	1		
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	0	0	1	0	0	1		
22	um so billig	in order to so cheaply	3	0	0	0	0	0	3	0	0		
23	um die halbe Welt zu jetten	jet half way around the world	3	0	3	3	0	0	3	0	0		
24	Des Rätsels Lösung	This puzzels solution	1	0	0	0	0	0	0	0	0		
25	ist viel einfacher	is much simpler	2	0	0	0	0	2	0	0	0		
26	Als den Münchner	As the man from Munich	1	0	0	0	0	1	0	0	0		
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	3	0	3	0	0	0		
28	hatte er sich	he did	2	0	0	0	0	0	0	0	0		
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0		
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0		
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	1	0	0		
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0		
33	gings beim Münchner Studenten	it went for the Munich student	1	0	1	0	0	0	1	0	0		
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	1	0	0		

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	17	18	19	20	21	22	23	24		
Prop	German	English	Val										
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	0	0	4	0	0		
36	und Scheckbuch ein	and checkbook in	2	0	0	2	0	0	2	0	0		
37	und fuhr zum Flughafen	and drove to the Airport	3	3	3	3	0	0	3	3	3		
38	Da hatte er noch keine Ahnung	There he still had no idea	4	4	4	4	0	4	4	4	0		
39	wohin die Reise gehen sollte	where the trip should go to	3	0	3	3	3	3	3	0	0		
40	Drei Stunden später	Three hours later	1	0	1	0	1	0	1	0	0		
41	saß ers schon im Jet	he already sat in a jet	3	0	3	0	3	0	3	0	0		
42	nach Eliat	to Eliat	2	0	0	0	0	0	0	0	0		
43	am Roten Meer	on the Red Sea	2	0	0	0	2	0	0	0	0		
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0		
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	2	0	2	0	2	2	2		
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	4	0	0	0	4	4	0	0		
47	am Flughafen	at the airport	1	1	1	1	1	0	1	1	1		
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	0	3	3	0	3	0	0		
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	3	0	0		
50	Ferienglück	dream vacations	2	0	2	0	0	0	0	0	0		
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0		
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0		
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0		
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	0	0	0	0	0		
55	vor drei Jahren	three years ago	3	0	0	0	0	0	3	0	0		
56	nöch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0		
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0		
Totals			141										
Automatic				34	56	54	28	19	77	25	21		
Manual													

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	25	26	27	28	29	30	31	32		
Prop	German	English	Val										
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0		
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0		
3	Erst Packen	Pack first	4	0	0	0	0	0	0	0	0		
4	Dann Buchen	then book (reserve)	4	0	0	0	0	0	0	0	0		
5	So schnell kann es gehen	This is how fast it can happen	4	0	0	0	4	0	0	0	0		
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	0	0	1	0	0	0	0		
7	dachte Peter Frisch	Peter Frisch thought	1	1	0	0	0	0	0	1	0		
8	noch darüber nach	still over that	1	0	0	0	1	0	0	0	1		
9	ob er sich einen Trip	if a trip he	4	4	0	4	0	0	4	4	4		
10	nach Spanien leisten könnte	to Spain could afford	4	4	0	4	0	4	4	4	4		
11	Am Donnerstag	on Thursday	3	3	0	0	0	0	0	0	0		
12	jettete er	he jettled	4	0	0	0	0	0	0	0	0		
13	dann doch lieber	however, rather	1	0	1	0	0	0	0	0	0		
14	nach San Franzisko	to San Francisco	2	2	2	2	2	2	2	2	2		
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	4	0	4	4	0	4	0		
16	nach Kalifornien und zurück	to California and back	2	0	0	2	2	0	2	2	0		
17	dieses Angebot	this offer	3	0	0	0	0	0	3	3	0		
18	hatte den Münchner	had the Munich student	1	1	0	0	0	1	1	0	0		
19	nicht lange zögern lassen	not caused to hesitate	3	3	0	0	0	3	0	0	0		
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	1	0	0	0	0	0	0	0		
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	0	0	0	0	1	0		
22	um so billig	in order to so cheaply	3	0	0	0	0	0	0	0	0		
23	um die halbe Welt zu jetten	jet half way around the world	3	0	0	0	0	0	0	0	0		
24	Des Rätsels Lösung	This puzzels solution	1	0	0	0	0	0	0	0	0		
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0		
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0		
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	0		
28	hatte er sich	he did	2	2	0	0	0	0	0	0	0		
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	4	0	0	0	0	0	0	0		
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0		
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0		
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0		
33	gings beim Münchner Studenten	it went for the Munich student	1	1	0	0	0	1	0	1	0		
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0		

Scoring of Travel Article

Travel Article Propositional Analysis Chart												
>> Computer Analysis <<												
			Sub #	25	26	27	28	29	30	31	32	
Prop	German	English	Val									
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	0	0	0	0	0	
36	und Scheckbuch ein	and checkbook in	2	2	0	0	0	0	0	0	0	
37	und fuhr zum Flughafen	and drove to the Airport	3	3	0	0	0	3	0	3	0	
38	Da hatte er noch keine Ahnung	There he still had no idea	4	4	4	0	0	0	4	0	0	
39	wohin die Reise gehen sollte	where the trip should go to	3	0	3	0	0	0	0	0	0	
40	Drei Stunden später	Three hours later	1	0	1	0	1	1	0	0	0	
41	saß erschon im Jet	he already sat in a jet	3	0	3	0	3	3	0	0	0	
42	nach Eliat	to Eliat	2	0	0	0	0	0	0	0	0	
43	am Roten Meer	on the Red Sea	2	0	0	0	0	0	0	0	0	
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0	
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	0	2	0	2	0	
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	4	4	0	0	0	0	0	0	
47	am Flughafen	at the airport	1	1	0	1	0	1	0	1	0	
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	3	3	3	3	0	0	0	0	
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	0	
50	Ferienglück	dream cocations	2	0	0	0	2	0	0	0	0	
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0	
52	in letzter Minute	at the last minute	3	3	0	0	0	0	0	0	0	
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0	
54	von Urlaubsreisen	of vacation travel packages	4	4	0	0	0	0	0	4	0	
55	vor drei Jahren	three years ago	3	0	0	0	0	3	0	0	0	
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	1	0	0	0	
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0	
		Totals	141									
		Automatic		54	25	16	23	29	20	32	11	
		Manual										

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	33	34	35	36	37	38	39	40		
Prop	German	English	Val										
1	Auf Die Schnelle	In a hurry	3	0	0	0	3	0	0	0	0		
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0		
3	Erst Packen	Pack first	4	0	0	0	4	4	0	0	0		
4	Dann Buchen	then book (reserve)	4	0	0	0	4	4	0	4	4		
5	So schnell kann es gehen	This is how fast it can happen	4	0	4	0	0	0	4	0	0		
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	1	0	1	1	0	1	0		
7	dachte Peter Frisch	Peter Frisch thought	1	0	1	0	1	1	0	0	0		
8	noch darüber nach	still over that	1	0	0	0	0	0	0	0	0		
9	ob er sich einen Trip	if a trip he	4	4	4	0	4	4	4	4	4		
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	0	0	4	4	0	4		
11	Am Donnerstag	on Thursday	3	0	0	0	0	3	0	3	0		
12	jettete er	he jettled	4	4	0	0	0	4	0	0	0		
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	0		
14	nach San Franzisko	to San Francisco	2	2	2	2	0	2	2	2	0		
15	895 Mark fürs Ticket	895 Marks for the ticket	4	0	0	4	0	4	4	4	4		
16	nach Kalifornien und zurück	to California and back	2	0	0	0	0	0	0	0	0		
17	dieses Angebot	this offer	3	0	0	3	0	0	3	0	3		
18	hatte den Münchner	had the Munich student	1	0	0	0	0	0	1	0	1		
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	0	0	0	0	3	0		
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	1	1	0	1	0	1	1	1		
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	1	0	1	0	1	0	0		
22	um so billig	in order to so cheaply	3	0	0	0	0	0	0	0	0		
23	um die halbe Welt zu jetten	jet half way around the world	3	0	3	0	0	0	0	0	0		
24	Des Rätsels Lösung	This puzzels solution	1	0	0	0	0	0	0	0	0		
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0		
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	1		
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	3		
28	hatte er sich	he did	2	0	0	0	0	0	0	2	2		
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	4		
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0		
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0		
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0		
33	gings beim Münchner Studenten	it went for the Munich student	1	0	0	0	0	0	0	1	0		
34	Manfred Konz'er	Manfred Kanzler	1	0	0	0	0	0	0	0	0		

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
>> Computer Analysis <<											
			Sub #	33	34	35	36	37	38	39	40
Prop	German	English	Val								
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	4	0	0	4	0	0	0	0
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	0	0	0
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	0	3	0	0	0	0
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	0	0	0	0	0	0
39	wohin die Reise gehen sollte	where the trip should go to	3	0	0	0	0	0	3	0	0
40	Drei Stunden später	Three hours later	1	1	0	0	0	0	0	0	0
41	saß ers schon im Jet	he already sat in a jet	3	3	0	0	0	0	0	0	0
42	nach Eliot	to Eliot	2	0	0	0	0	0	0	0	0
43	am Roten Meer	on the Red Sea	2	0	0	0	0	0	0	0	0
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	0	0	0	2	0
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	0	0	0	0	0	0	0
47	am Flughafen	at the airport	1	0	0	0	0	1	0	1	0
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	0	0	0	3	0	3	0
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	0
50	Ferienglück	dream vacations	2	0	0	0	0	0	0	0	0
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	0	0	0	0	0
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	3
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	4	0
Totals			141								
Automatic			23	21	9	26	35	27	35	34	
Manual											

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
>> Computer Analysis <<											
			Sub #	41	42	43	44	45	46	47	48
Prop	German	English	Val								
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0
3	Erst Packen	Pack first	4	0	0	0	0	0	0	0	0
4	Dann Buchen	then book (reserve)	4	0	0	0	0	0	0	0	4
5	So schnell kann es gehen	This is how fast it can happen	4	0	4	4	0	0	0	0	4
6	Am Dienstag letzter Woche	on Tuesday last week	1	1	1	1	1	1	0	1	1
7	dachte Peter Frisch	Peter Frisch thought	1	0	0	1	1	1	0	1	0
8	noch darüber nach	still over that	1	0	1	0	0	0	0	0	0
9	ob er sich einen Trip	if a trip he	4	4	4	4	4	0	0	0	4
10	nach Spanien leisten könnte	to Spain could afford	4	4	0	4	4	0	4	0	4
11	Am Donnerstag	on Thursday	3	3	3	3	3	3	0	3	0
12	jettete er	he jetted	4	4	0	4	4	4	0	4	0
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	0
14	nach San Franzisko	to San Francisco	2	2	2	2	0	2	2	2	0
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	4	4	4	4	4	0	4
16	nach Kalifornien und zurück	to California and back	2	2	0	0	0	2	2	2	0
17	dieses Angebot	this offer	3	0	0	0	3	0	0	0	0
18	hatte den Münchner	had the Munich student	1	1	0	0	0	0	0	1	0
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	0	3	0	0	0	0
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	0	1	0	1	1	0	0	1
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	1	0	0	1	0	0	1
22	um so billig	in order to so cheaply	3	3	0	0	0	3	0	0	0
23	um die halbe Welt zu jetten	jet half way around the world	3	0	3	0	3	3	0	0	3
24	Des Rätsels Lösung	This puzzles solution	1	0	0	0	0	0	0	0	0
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	0
28	hatte er sich	he did	2	0	0	0	2	0	0	0	0
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0
33	gings beim Münchner Studenten	it went for the Munich student	1	1	0	1	1	0	0	0	0
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
> > Computer Analysis < <											
			Sub #	41	42	43	44	45	46	47	48
Prop	German	English	Val								
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	4	0	0	0	0	0	0
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	0	0	0
37	und fuhr zum Flughafen	and drove to the Airport	3	3	0	3	3	0	0	3	0
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	0	4	0	0	0	0
39	wohin die Reise gehen sollte	where the trip should go to	3	0	0	0	0	0	3	0	0
40	Drei Stunden später	Three hours later	1	0	0	1	0	0	0	0	0
41	saß ers schon im Jet	he already sat in a jet	3	3	0	3	0	0	0	0	0
42	nach Eliat	to Eliat	2	0	0	0	0	0	0	0	0
43	am Roten Meer	on the Red Sea	2	2	0	0	0	0	0	0	0
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	2	2	2	0	0	0	2	0
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	0	4	0	0	0	0	0
47	am Flughafen	at the airport	1	1	1	1	1	1	0	1	0
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	3	0	0	0	3	0	3
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	0
50	Ferienglück	dream vacations	2	0	2	0	0	0	0	0	0
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0
52	in letzter Minute	at the last minute	3	3	0	0	0	0	0	0	0
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0
54	von Urlaubsreisen	of vacation travel packages	4	4	0	0	0	0	0	0	0
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0
Totals			141								
Automatic				47	36	42	42	26	18	20	29
Manual											

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	49	50	51	52	53	54	55	56		
Prop	German	English	Val										
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0		
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0		
3	Erst Packen	Pack first	4	4	0	0	0	0	0	0	0		
4	Dann Buchen	then book (reserve)	4	4	0	0	0	4	4	0	0		
5	So schnell kann es gehen	This is how fast it can happen	4	4	0	0	4	4	0	0	0		
6	Am Dienstag letzter Woche	on Tuesday last week	1	1	0	0	1	1	1	1	0		
7	dachte Peter Frisch	Peter Frisch thought	1	1	0	0	1	1	1	1	1		
8	noch darüber nach	still over that	1	0	0	0	0	0	0	0	0		
9	ob er sich einen Trip	if a trip he	4	4	0	0	4	4	0	0	4		
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	0	4	4	0	4	4		
11	Am Donnerstag	on Thursday	3	3	0	0	3	3	3	3	0		
12	jettete er	he jelled	4	4	0	0	4	4	4	4	0		
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	0		
14	nach San Franzisko	to San Francisco	2	2	2	2	2	2	2	2	0		
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	4	4	4	4	4	0	0		
16	nach Kalifornien und zurück	to California and back	2	2	0	0	2	0	2	0	0		
17	dieses Angebot	this offer	3	0	0	0	0	3	0	0	0		
18	hatte den Münchner	had the Munich student	1	0	0	0	1	1	1	1	0		
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	0	0	3	0	0	0		
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	1	0	0	1	0	0	0	0		
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	1	0	0	0	0	0	0	0		
22	um so billig	in order to so cheaply	3	0	0	0	3	0	0	0	0		
23	um die halbe Welt zu jetten	jet half way around the world	3	3	0	0	0	0	0	0	0		
24	Des Rätsels Lösung	This puzzels solution	1	0	0	0	0	0	0	0	0		
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0		
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0		
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	0		
28	hatte er sich	he did	2	0	0	0	0	0	0	0	0		
29	bei den Last-Minute-Büros umgehört	check-out the last minute agencies	4	0	0	0	0	0	0	0	0		
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0		
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0		
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0		
33	ging's beim Münchner Studenten	it went for the Munich student	1	0	0	0	0	0	1	0	0		
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0		

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
> > Computer Analysis < <													
			Sub #	49	50	51	52	53	54	55	56		
Prop	German	English	Val										
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	0	0	0	0	0	0	
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	0	0	0	0	
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	0	0	3	0	0	3		
38	Da hatte er noch keine Ahnung	There he still had no idea	4	4	0	0	0	0	4	0	0		
39	wohin die Reise gehen sollte	where the trip should go to	3	3	0	0	0	0	0	3	0		
40	Drei Stunden später	Three hours later	1	0	1	0	0	0	0	0	0		
41	saß erschon im Jet	he already sat in a jet	3	0	0	0	0	3	3	3	0		
42	nach Eliot	to Eliot	2	0	0	0	2	0	0	0	0		
43	am Roten Meer	on the Red Sea	2	0	0	0	0	2	0	0	0		
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0		
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	0	0	2	0	0		
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	0	0	0	0	0	0	0		
47	am Flughafen	at the airport	1	1	0	0	1	1	1	0	0		
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	0	0	0	3	0	0	0		
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	0		
50	Ferienglück	dream cocations	2	0	0	0	0	0	0	0	0		
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0		
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0		
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0		
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	0	0	0	0	0		
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0		
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0		
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0		
Totals			141										
Automatic				50	11	6	37	50	33	22	12		
Manual													

Scoring of Travel Article

Travel Article Propositional Analysis Chart												
> > Computer Analysis < <												
			Sub #	57	58	59	60	61	62	63	64	
Prop	German	English	Val									
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	3	0	
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0	
3	Erst Packen	Pack first	4	0	0	0	0	0	4	0	0	
4	Dann Buchen	then book (reserve)	4	0	0	0	0	0	4	0	0	
5	So schnell kann es gehen	This is how fast it can happen	4	0	0	0	4	4	4	4	4	
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	0	0	1	1	1	0	0	
7	dachte Peter Frisch	Peter Frisch thought	1	0	0	0	1	0	1	0	0	
8	noch darüber nach	still over that	1	0	0	0	1	0	1	0	0	
9	ob er sich einen Trip	if a trip he	4	0	0	4	0	4	4	4	0	
10	nach Spanien leisten könnte	to Spain could afford	4	0	4	4	0	0	4	0	4	
11	Am Donnerstag	on Thursday	3	0	0	0	0	3	0	3	0	
12	jettete er	he jetted	4	0	0	0	0	4	0	0	0	
13	dann doch lieber	however, rather	1	0	0	0	0	0	1	0	0	
14	nach San Franzisko	to San Francisco	2	0	2	2	0	2	2	2	0	
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	0	4	0	0	0	0	0	
16	nach Kalifornien und zurück	to California and back	2	0	0	2	0	0	0	0	0	
17	dieses Angebot	this offer	3	0	0	0	0	0	0	0	0	
18	hatte den Münchner	had the Munich student	1	0	0	1	0	0	1	1	0	
19	nicht lange zögern lassen	not caused to hesitate	3	3	0	0	0	0	3	0	0	
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	0	0	0	0	0	0	0	0	
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	0	0	0	0	0	0	
22	um so billig	in order to so cheaply	3	0	0	0	0	0	3	0	0	
23	um die halbe Welt zu jetten	jet half way around the world	3	0	0	3	0	0	3	0	0	
24	Des Rätsels Lösung	This puzzles solution	1	0	0	0	0	0	0	0	0	
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0	
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0	
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	0	
28	hatte er sich	he did	2	0	0	0	0	0	0	0	0	
29	bei den Last-Minute-Büros umgehört	check-out the last minute agencies	4	0	4	0	0	0	0	0	0	
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0	
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successful	1	0	0	0	0	0	0	0	0	
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0	
33	ging's beim Münchner Studenten	it went for the Munich student	1	0	0	0	0	0	0	0	0	
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0	

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
> > Computer Analysis < <											
			Sub #	57	58	59	60	61	62	63	64
Prop	German	English	Val								
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	4	0	4	0	0
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	2	0	0
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	0	0	3	3	0	0
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	0	0	0	0	4	0
39	wohin die Reise gehen sollte	where the trip should go to	3	0	3	0	0	0	0	3	0
40	Drei Stunden später	Three hours later	1	0	0	1	0	0	0	0	0
41	saß erschon im Jet	he already sat in a jet	3	0	0	3	0	0	0	0	0
42	nach Eliot	to Eliot	2	0	0	0	0	0	0	0	0
43	am Roten Meer	on the Red Sea	2	0	0	0	0	0	0	0	0
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	0	0	0	0	0
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	4	0	0	0	0	0	0
47	am Flughafen	at the airport	1	0	1	0	0	1	0	1	0
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	0	3	0	0	3	0	3
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	0
50	Ferienglück	dream vacations	2	0	0	0	0	0	0	0	0
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0
54	von Urlaubsreisen	of vacation travel packages	4	0	4	0	0	0	0	0	0
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0
Totals			141								
Automatic			7	22	27	11	22	48	25	11	
Manual											

Scoring of Travel Article

Travel Article Propositional Analysis Chart												
> > Computer Analysis < <												
			Sub #	65	66	67	68	69	70	71	72	
Prop	German	English	Val									
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0	
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0	
3	Erst Packen	Pack first	4	0	0	0	0	4	0	0	0	
4	Dann Buchen	then book (reserve)	4	0	0	0	0	0	4	0	0	
5	So schnell kann es gehen	This is how fast it can happen	4	0	4	0	4	4	4	4	0	
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	1	0	1	0	1	1	1	
7	dachte Peter Frisch	Peter Frisch thought	1	0	1	0	1	0	1	0	1	
8	noch darüber nach	still over that	1	1	0	0	0	0	0	0	1	
9	ob er sich einen Trip	if a trip he	4	4	4	0	4	4	4	4	4	
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	4	4	4	4	4	4	
11	Am Donnerstag	on Thursday	3	0	3	3	3	0	3	3	3	
12	jettete er	he jetted	4	0	4	0	4	0	4	4	4	
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	1	
14	nach San Franzisko	to San Francisco	2	0	2	2	2	0	2	2	2	
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	0	4	0	4	4	0	4	
16	nach Kalifornien und zurück	to California and back	2	2	0	0	2	0	0	0	2	
17	dieses Angebot	this offer	3	0	3	0	0	0	0	0	0	
18	hatte den Münchner	had the Munich student	1	1	0	0	0	0	1	0	1	
19	nicht lange zögern lassen	not caused to hesitate	3	3	3	0	0	0	0	0	0	
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	1	0	1	1	0	0	0	0	
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	1	0	1	1	0	0	0	0	
22	um so billig	in order to so cheaply	3	0	0	0	0	0	0	0	0	
23	um die halbe Welt zu jetten	jet half way around the world	3	0	3	3	3	0	0	0	0	
24	Des Rätsels Lösung	This puzzles solution	1	0	0	0	0	0	0	0	0	
25	ist viel einfacher	is much simpler	2	0	0	0	2	0	0	0	0	
26	Als den Münchner	As the man from Munich	1	0	1	0	1	0	0	0	0	
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	3	0	0	0	0	
28	hatte er sich	he did	2	0	2	0	0	0	0	0	0	
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0	
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0	
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0	
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0	
33	ging's beim Münchner Studenten	it went for the Munich student	1	0	1	1	1	0	1	0	0	
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0	

Scoring of Travel Article

Travel Article Propositional Analysis Chart												
>> Computer Analysis <<												
			Sub #	65	66	67	68	69	70	71	72	
Prop	German	English	Val									
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	0	4	4	0	4	
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	2	0	0	
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	3	3	3	0	3	0	
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	4	0	4	0	0	4	4	
39	wohin die Reise gehen sollte	where the trip should go to	3	0	3	3	3	0	0	0	3	
40	Drei Stunden später	Three hours later	1	0	1	0	1	0	1	0	0	
41	saß erschon im Jet	he already sat in a jet	3	0	3	0	3	0	3	0	3	
42	nach Eliat	to Eliat	2	0	0	2	0	0	2	0	0	
43	am Roten Meer	on the Red Sea	2	2	0	0	0	0	0	0	0	
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	2	
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	2	0	0	0	2	
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	0	0	0	0	4	0	0	
47	am Flughafen	at the airport	1	0	1	1	1	0	1	1	1	
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	3	3	3	3	0	3	0	0	
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	3	0	0	
50	Ferienglück	dream cocations	2	2	0	0	0	0	0	0	0	
51	gleich dutzendweise	by the dozen	2	0	0	0	0	2	2	0	0	
52	in letzter Minute	at the last minute	3	0	0	0	0	3	0	0	0	
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0	
54	von Urlaubsreisen	of vacation travel packages	4	4	0	0	0	0	0	0	0	
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0	
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0	
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0	
		Totals	141									
		Automatic		32	51	31	57	32	58	30	47	
		Manual										

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
> > Computer Analysis < <													
			Sub #	73	74	75	76	77	78	79	80		
Prop	German	English	Val										
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0		
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0		
3	Erst Packen	Pack first	4	4	0	0	0	0	0	0	4		
4	Dann Buchen	then book (reserve)	4	4	0	0	4	0	0	4	4		
5	So schnell kann es gehen	This is how fast it can happen	4	4	4	4	4	4	0	0	0		
6	Am Dienstag letzter Woche	on Tuesday last week	1	1	1	0	0	1	0	1	0		
7	dachte Peter Frisch	Peter Frisch thought	1	1	0	1	0	1	0	0	0		
8	nach darüber nach	still over that	1	1	1	0	0	0	0	1	0		
9	ob er sich einen Trip	if a trip he	4	4	4	4	4	4	0	4	0		
10	nach Spanien leisten könnte	to Spain could afford	4	4	0	4	4	0	4	4	0		
11	Am Donnerstag	on Thursday	3	3	3	3	3	3	0	3	0		
12	jettete er	he jetted	4	4	0	4	4	4	0	4	0		
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	0		
14	nach San Franzisko	to San Francisco	2	2	2	2	2	2	0	2	0		
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	0	0	4	0	4	4	0		
16	nach Kalifornien und zurück	to California and back	2	2	2	0	2	2	2	2	0		
17	dieses Angebot	this offer	3	0	0	0	0	3	0	0	0		
18	hatte den Münchner	had the Munich student	1	1	0	0	0	0	0	1	0		
19	nicht lange zögern lassen	not caused to hesitate	3	3	0	0	0	0	0	0	0		
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	1	0	0	0	1	0	0	0		
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	1	1	0	1	1	0	0	0		
22	um so billig	in order to so cheaply	3	3	0	0	0	3	0	0	0		
23	um die halbe Welt zu jetten	jet half way around the world	3	3	0	0	3	3	0	0	0		
24	Des Rätsels Lösung	This puzzels solution	1	0	0	0	0	0	0	0	0		
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	0	0		
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0		
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	3	0	0	0		
28	hatte er sich	he did	2	0	0	0	0	0	0	0	0		
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0		
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0		
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0		
32	Nach rascher	Faster still	2	0	0	0	0	0	0	0	0		
33	gings beim Münchner Studenten	it went for the Munich student	1	0	1	0	0	0	0	1	0		
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0		

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
>> Computer Analysis <<											
			Sub #	73	74	75	76	77	78	79	80
Prop	German	English	Vol								
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	4	0	0	0	0	4	0
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	0	0	0
37	und fuhr zum Flughafen	and drove to the Airport	3	3	0	0	0	0	0	0	0
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	0	0	0	0	4	0
39	wohin die Reise gehen sollte	where the trip should go to	3	3	0	0	0	0	0	0	0
40	Drei Stunden später	Three hours later	1	1	1	0	0	0	0	1	0
41	saß erschon im Jet	he already sat in a jet	3	3	3	0	0	0	0	3	0
42	nach Eliat	to Eliat	2	0	2	0	0	0	0	0	0
43	am Roten Meer	on the Red Sea	2	0	0	0	0	0	0	0	0
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	2	0	0	0	0	0	0	0
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	4	0	0	0	0	4	0	0
47	am Flughafen	at the airport	1	1	0	1	1	1	1	1	0
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	3	3	0	0	0	3	0	0
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	0
50	Ferienglück	dream vacations	2	0	0	0	0	0	2	0	0
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	0	0	0	0	0
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0
		Totals	141								
		Automatic		70	32	23	36	36	20	44	8
		Manual									

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
> > Computer Analysis < <													
			Sub #	81	82	83	84	85	86	87	88		
Prop	German	English	Val										
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	3	0		
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0		
3	Erst Packen	Pack first	4	0	0	0	0	0	0	0	0		
4	Dann Buchen	then book (reserve)	4	0	0	0	0	4	0	0	4		
5	So schnell kann es gehen	This is how fast it can happen	4	4	0	0	0	4	4	4	4		
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	0	0	0	0	1	0	0		
7	dachte Peter Frisch	Peter Frisch thought	1	0	0	0	0	0	1	0	0		
8	noch darüber nach	still over that	1	0	0	0	0	0	0	0	1		
9	ob er sich einen Trip	if a trip he	4	4	0	0	0	4	4	4	0		
10	nach Spanien leisten könnte	to Spain could afford	4	4	0	0	0	4	4	4	4		
11	Am Donnerstag	on Thursday	3	0	0	0	0	0	3	0	3		
12	jettete er	he jetted	4	0	0	0	0	0	0	0	0		
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	0		
14	nach San Franzisko	to San Francisco	2	0	0	0	0	0	2	0	2		
15	895 Mark fürs Ticket	895 Marks for the ticket	4	0	0	4	0	4	4	0	4		
16	nach Kalifornien und zurück	to California and back	2	0	0	2	0	0	0	0	2		
17	dieses Angebot	this offer	3	0	0	0	0	3	0	0	0		
18	hatte den Münchner	had the Munich student	1	0	0	0	0	0	1	0	0		
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	0	0	0	3	0	0		
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	0	0	0	0	0	0	1	0		
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	1	0	1	0	1	0		
22	um so billig	in order to so cheaply	3	0	0	0	0	0	0	0	0		
23	um die halbe Welt zu jetten	jet half way around the world	3	0	0	0	0	0	0	3	0		
24	Des Rätsels Lösung	This puzzels solution	1	0	0	0	0	0	0	1	1		
25	ist viel einfacher	is much simpler	2	0	0	0	0	0	0	2	0		
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0		
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0	0	0	0	0		
28	hatte er sich	he did	2	0	0	0	0	0	0	0	0		
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0		
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0		
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0		
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0		
33	gings beim Münchner Studenten	it went for the Munich student	1	1	0	0	0	1	0	0	1		
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0		

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
>> Computer Analysis <<											
			Sub #	81	82	83	84	85	86	87	88
Prop	German	English	Val								
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	0	0	0	0	0	4
36	und Scheckbuch ein	and checkbook in	2	0	0	0	0	0	0	0	0
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	0	0	0	0	0	0
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	0	0	0	0	0	0
39	wohin die Reise gehen sollte	where the trip should go to	3	0	0	0	0	0	0	3	0
40	Drei Stunden später	Three hours later	1	0	0	0	0	0	0	0	0
41	saß ers schon im Jet	he already sat in a jet	3	0	0	0	3	0	0	3	0
42	nach Eliat	to Eliat	2	0	0	0	0	0	0	0	0
43	am Roten Meer	on the Red Sea	2	0	0	0	0	0	0	0	0
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	0	0	0
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	2	2	0	0	0	0	0	0
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	0	0	0	0	0	0	0
47	am Flughafen	at the airport	1	1	1	0	0	0	1	0	1
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	3	3	0	0	0	3	0	0
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	0
50	Ferienglück	dream cocations	2	0	0	0	0	0	2	0	0
51	gleich dutzendweise	by the dozen	2	0	0	0	0	0	0	0	0
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	0	0	0	0	0
55	vor drei Jahren	three years ago	3	3	0	0	0	0	0	0	0
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0
Totals			141								
Automatic			22	6	7	3	25	33	29	31	
Manual											

Scoring of Travel Article

Travel Article Propositional Analysis Chart											
>> Computer Analysis <<											
			Sub #	89	90	91	92	93	94	95	96
Prop	German	English	Val								
1	Auf Die Schnelle	In a hurry	3	0	0	0	0	0	0	0	0
2	In Die Ferne	into the distance	2	0	0	0	0	0	0	0	0
3	Erst Packen	Pack first	4	0	0	4	0	0	0	0	4
4	Dann Buchen	then book (reserve)	4	0	0	4	4	4	4	0	0
5	So schnell kann es gehen	This is how fast it can happen	4	0	0	0	0	0	4	4	0
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	0	0	1	1	0	1	0
7	dachte Peter Frisch	Peter Frisch thought	1	0	0	0	1	0	0	0	1
8	noch darüber nach	still over that	1	0	0	0	0	0	1	0	0
9	ob er sich einen Trip	if a trip he	4	0	0	0	4	4	4	4	4
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	0	4	0	4	4	4
11	Am Donnerstag	on Thursday	3	3	0	0	3	3	3	3	3
12	jettete er	he jettled	4	0	0	0	4	4	4	4	4
13	dann doch lieber	however, rather	1	0	0	0	0	0	0	0	0
14	nach San Franzisko	to San Francisco	2	2	0	0	2	2	2	2	2
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	0	4	0	4	4	0	0
16	nach Kalifornien und zurück	to California and back	2	2	0	0	0	2	0	0	0
17	dieses Angebot	this offer	3	0	0	3	0	0	0	0	0
18	hatte den Münchner	had the Munich student	1	0	0	1	0	1	0	0	1
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	0	0	0	0	0	0
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	0	0	1	0	0	0	1	0
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	0	1	0	1	1	0
22	um so billig	in order to so cheaply	3	0	0	3	0	0	0	0	0
23	um die halbe Welt zu jetten	jet half way around the world	3	0	3	3	0	0	0	3	0
24	Des Rätsels Lösung	This puzzles solution	1	0	0	0	0	0	0	0	0
25	ist viel einfacher	is much simpler	2	0	0	2	0	0	0	0	0
26	Als den Münchner	As the man from Munich	1	0	0	0	0	0	0	0	0
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	3	0	0	0	0	0
28	hatte er sich	he did	2	0	0	2	0	0	0	0	0
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	0	0	0	0	0	0	0	0
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0	0	0	0	0
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0	0	0	0	0
32	Noch rascher	Faster still	2	0	0	0	0	0	0	0	0
33	gings beim Münchner Studenten	it went for the Munich student	1	0	0	1	0	1	0	0	1
34	Manfred Konzler	Manfred Kanzler	1	0	0	0	0	0	0	0	0

Scoring of Travel Article

Travel Article Propositional Analysis Chart													
>> Computer Analysis <<													
			Sub #	89	90	91	92	93	94	95	96		
Prop	German	English	Val										
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	4	4	0	0	4	0		
36	und Scheckbuch ein	and checkbook in	2	0	0	0	2	2	0	2	2		
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	3	0	3	0	3	0		
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	4	0	4	0	0	4		
39	wohin die Reise gehen sollte	where the trip should go to	3	0	3	3	0	0	0	3	3		
40	Drei Stunden später	Three hours later	1	1	0	1	0	0	0	1	0		
41	saß ers schon im Jet	he already sat in a jet	3	3	0	3	0	0	3	3	3		
42	nach Eliat	to Eliat	2	0	0	0	0	0	0	2	0		
43	am Roten Meer	on the Red Sea	2	0	0	0	0	0	0	2	0		
44	für 498 Mark	for 498 Marks	2	0	0	0	0	0	2	0	0		
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	0	0	0	0	0		
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	4	0	0	0	0	0	0		
47	am Flughafen	at the airport	1	0	0	1	0	1	1	1	1		
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	0	0	3	3	0	0	3	3		
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0	0	0	0	3		
50	Ferienglück	dream cocations	2	0	0	0	0	0	0	0	0		
51	gleich dutzendweise	by the dozen	2	0	0	2	0	0	0	0	0		
52	in letzter Minute	at the last minute	3	0	0	0	0	0	0	0	0		
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0	0	0	0	0		
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	0	0	0	0	0		
55	vor drei Jahren	three years ago	3	0	0	0	0	0	0	0	0		
56	noch fast unbekannt	still almost unknown	1	0	0	0	0	0	0	0	0		
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0	0	0	0	0		
Totals			141										
Automatic			19	14	55	33	36	37	51	43			
Manual													

Scoring of Travel Article

Travel Article Propositional Analysis Chart							
>> Computer Analysis <<							
			Sub #	97	98	99	100
Prop	German	English	Val				
1	Auf Die Schnelle	In a hurry	3	0	0	0	0
2	In Die Ferne	into the distance	2	0	0	0	0
3	Erst Packen	Pack first	4	0	0	0	0
4	Dann Buchen	then book (reserve)	4	0	0	0	0
5	So schnell kann es gehen	This is how fast it can happen	4	0	0	0	0
6	Am Dienstag letzter Woche	on Tuesday last week	1	0	0	1	0
7	dachte Peter Frisch	Peter Frisch thought	1	1	0	1	0
8	noch darüber nach	still over that	1	1	1	0	0
9	ob er sich einen Trip	if a trip he	4	4	4	4	4
10	nach Spanien leisten könnte	to Spain could afford	4	4	4	4	0
11	Am Donnerstag	on Thursday	3	0	0	3	0
12	jettete er	he jetted	4	0	0	4	4
13	dann doch lieber	however, rather	1	0	0	0	0
14	nach San Franzisko	to San Francisco	2	0	0	2	2
15	895 Mark fürs Ticket	895 Marks for the ticket	4	4	0	4	4
16	nach Kalifornien und zurück	to California and back	2	2	0	0	0
17	dieses Angebot	this offer	3	3	0	0	0
18	hatte den Münchner	had the Munich student	1	0	0	1	0
19	nicht lange zögern lassen	not caused to hesitate	3	0	0	3	0
20	Muß man vielleicht	Does one have to perhaps (maybe)	1	0	0	0	1
21	mit einer Stewardess verlobt sein	be engaged to a Stewardess	1	0	0	0	1
22	um so billig	in order to so cheaply	3	0	3	3	3
23	um die halbe Welt zu jetten	jet half way around the world	3	0	3	0	0
24	Des Rätsels Lösung	This puzzels solution	1	0	1	0	0
25	ist viel einfacher	is much simpler	2	0	0	0	0
26	Als den Münchner	As the man from Munich	1	0	0	0	0
27	das Fernweh überkam	was overcome with a yearning to travel	3	0	0	0	0
28	hatte er sich	he did	2	2	0	0	0
29	bei den Last-Minute-Büros umgehör	check-out the last minute agencies	4	4	0	0	0
30	Bei der Tonband-Ansage	On the tape recorded message	2	0	0	0	0
31	von L'Tours wurde er fündig	of L'Tours he struck paydirt / was successfu	1	0	0	0	0
32	Noch rascher	Faster still	2	0	0	0	0
33	gings beim Münchner Studenten	it went for the Munich student	1	1	0	1	0
34	Manfred Kanzler	Manfred Kanzler	1	0	0	0	0

Scoring of Travel Article

Travel Article Propositional Analysis Chart							
>> Computer Analysis <<							
			Sub #	97	98	99	100
Prop	German	English	Val				
35	er packte einfach Zahnbürste	he simply packed a toothbrush	4	0	0	4	0
36	und Scheckbuch ein	and checkbook in	2	0	0	2	2
37	und fuhr zum Flughafen	and drove to the Airport	3	0	0	0	0
38	Da hatte er noch keine Ahnung	There he still had no idea	4	0	0	0	0
39	wohin die Reise gehen sollte	where the trip should go to	3	3	0	0	0
40	Drei Stunden später	Three hours later	1	0	0	0	0
41	saß erschon im Jet	he already sat in a jet	3	0	0	0	0
42	nach Eliot	to Eliot	2	0	0	0	0
43	am Roten Meer	on the Red Sea	2	0	0	0	0
44	für 498 Mark	for 498 Marks	2	0	0	0	0
45	Für Verkäuferin Beate Baskos	For (the) travel agent Beate Baskos	2	0	0	0	2
46	vom ABR-Last-Minute-service	of ABR Last Minute Service	4	0	0	0	0
47	am Flughafen	at the airport	1	0	0	1	1
48	ist das nichts Ungewöhnliches	that is nothing unusual	3	3	3	0	0
49	Sie vermittelt jedes Wochenende	she arranges every weekend	3	0	0	0	0
50	Ferienglück	dream cocations	2	2	0	0	0
51	gleich dutzendweise	by the dozen	2	0	0	0	0
52	in letzter Minute	at the last minute	3	0	0	0	0
53	Der Schluß-Verkauf	The close out sale	4	0	0	0	0
54	von Urlaubsreisen	of vacation travel packages	4	0	0	0	4
55	vor drei Jahren	three years ago	3	0	0	0	0
56	nach fast unbekannt	still almost unknown	1	0	0	0	0
57	erhebt jetzt den großen Boom	has now risen to a great boom	4	0	0	0	0
		Totals	141				
		Automatic		34	19	38	28
		Manual					

APPENDIX D
SAMPLE OF STUDENT INFORMATION

Information Cover Sheet

Control #: 600 18686
Six digit #: 348554
Name: [REDACTED]
Group: 3

Contents:

- ☒ Initial Response
- ☒ My score sheet
- ☒ Garlisch score sheet
- ☐ Moraco score sheet
- ☒ Delayed Response
- ☒ Delayed score sheet
- ☒ Batman recall
- ☒ Letter recall
- ☒ Travel recall

Scores:

Avg Eng Time: 5.49 Avg German Time: 6.50
Avg (delayed) Time: 6.69

Total Word knowledge (1): 38 Avg (1): _____
Total Word knowledge (2): 23 Avg (2): _____

Batman recall: 30 T-score: 46 14 (1)
Letter recall: 40 T-score: 62.31 21 (5)
Travel recall: 36 T-score: 57.22 18 (2)
Avg (total) T-score: 55.85 53 (8)

ACT English: 29 ACT Reading: 28
SAT Verbal: _____

Comments:

626

668

776

$$\frac{2070}{3} = 690 = 11^{30}$$

Recall Protocol for Batman Article

14 (1)

<<GCO18686 [625.9316: 0]>> He should be better than the first, says the 14 year old Maria as she stands in the theater on Broadway.
American kids have loved batman since 1939. The sequel made 46.5 million dollars.

<<GCO18686>>

//14jaehrige{19.06055}//absitzen{111.1113}//aller{117.541}//angesteuert{124.9512}//Anlauf{131.541}//
ansteht{135.1699}//begeistert{143.6309}//soll{162.7402}//gebildet{229.4199}//Kasse{243.8711}//klingt
{286.2109}//angesteuert{316.8613}//Fest{334.3301}//soll{427.541}//

14

18
3' 54

Recall Protocol for Bernhardt Letter

21 (5)

<<GCO18686 [668.0508: 197.3496]>> Address

Dear,

Enclosed, you will find the promised materials. If you should need, we can make another copy.

Needless to say, it is very fun and you can meet people to converse with who share your same interests.

You can send it to your colleagues.

I hope all is well.

yours,
some name

<<GCO18686>>

//Anlage{28.56055}//Dinge{42.56055}//versprochenen{66.17969}//odern{100.2402}//versprochenen{12
9.8906}//interessiert{143.2402}//sollten{157.8496}//andern{178.2793}//kopieren{205.6895}//Ihnen{317
.3008}//plaudern{339.2695}//gemeinsame{391.7207}//Bekannte{412.5391}//entdecken{426.709}//Liebe
{493.2793}//Mitarbeiters{531.7305}//mitzuteilen{545.4102}//schicken{566.2207}//Wuenschen{618.400
4}//entdecken{649}//

21

Recall Protocol for Travel Article

18(2)

<<GCO18686 [776.4805: 197.3496]>> Make a fast trip. Make reservations

So fast can it go. On Tuesday last week, Peter Frisch wanted to fly to Spain. On the next Thursday, he would love to fly to San Francisco. 895 mark for a trip to California and back. This offer doesn't last very long! Perhaps you have to be engaged with a stewardess to fly halfway around the world for so cheap.

<<GCO18686>>

//Auf{15.38086}//Schnelle{28.17969}//Ferne{41.36133}//Ferne{49.21094}//darueber{92.66016}//nach{110.0703}//darueber{145.3906}//darueber{202.791}//Angebot{224.7012}//Raetsels{263.4805}//ABR-Last-Minute-Service{328.8906}//So{386.1797}//dachte{446.1113}//darueber{461.4297}//jetten{480.2109}//jettete{485.0996}//Buchen{765.0605}//

18

✓

348554>> 1 not important>> 2 Don't really know>> 3 Never heard of it>> 4 puzzlingness. >> 5 a property of sound or light
??>> 6 lethargic; sluggish>> 7 faster, quicker>> 8 engaged>> 9 engaged>> 10 acquaintances
??>> 11 together>> 12 can't remember
>> 13 to converse with>> 14 about>> 15 acquaintances>> 16 spits>> 17 together>> 18 Puzzle>> 19 shadow world>> 20 unnecessary>> 21 sequel>> 22 can't remember>> 23 about
??>> 24 can't remember

348554<<<> 0>> NO ANS<<> 1>> I don't know what the study was trying to accomplish, so I can't really give my impression as to its effectiveness. All I can say is that the I only got a little bit of each passage translated. The vocabulary was easily learned, but I didn't retain it very well.<<> 2>> Possibly, if the words were reviewed over and over. Just one time memorizing them is not effective in the long run.<<> 3>> It was difficult. Almost to the point where I stopped trying. <<> 4>> Reviewing is a necessity if the vocabulary program is to be effective. Not just reviewing the same day, but on separate occasions.<<> 5>> Maybe a little bit.<<> 6>> I retained a more than half of the words long term.

5.49 6.50
(1.94) (5.05)

Scoring Sheet #1

Word Scoring Sheet

Record ID #: 348554

Rater: G

7. rascher	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
8. verwandelt	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
9. verlobt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
10. entdecken	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
11. begeistert	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
12. vermittelt	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
13. plaudern	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
14. ungewöhnlich	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
15. Bekannte	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
16. spuckt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
17. gemeinsame	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
18. Rätsel	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
19. Schattenwelt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
20. unnötig	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
21. Fortsetzung	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known
22. Angebot	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
23. bereits	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
24. Gelegenheit	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known

Scoring Sheet #2

Word Scoring Sheet

Record ID #: 348554

Rater: F

K	7. rascher	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
F	8. verwandelt	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
K	9. verlobt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
F	10. entdecken	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
K	11. begeistert	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	12. vermittelt	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
K	13. plaudern	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
F	14. ungewöhnlich	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	15. Bekannte	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
K	16. spuckt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
F	17. gemeinsame	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
K	18. Rätsel	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
K	19. Schattenwelt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
K	20. unnötig	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
K	21. Fortsetzung	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
F	22. Angebot	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	23. bereits	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	24. Gelegenheit	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1

38

Delayed Knowledge Test

348554>> 1 acquaintance
 >> 2 shadow world>> 3 don't know>> 4 a>> 5 can't remember>> 6 richer?>> 7 unnecessary>> 8 don't
 know>> 9 yo no se>> 10 involved>> 11 don't know>> 12 spit>> 13 ?>> 14 ?>> 15 ?>> 16
 acquaintance>> 17 ?>> 18 ?

348554<>> 1 4.560000000000131<Familiar>> 2 5.32999999999811<Known>> 3
 5.93999999999869<Unknown>> 4 10.15999999999999<Familiar>> 5
 17.36000000000006<Familiar>> 6 4.38999999999942<Familiar>> 7 3.61999999999898<Known>> 8
 3.45999999999913<Unknown>> 9 7.68999999999869<Familiar>> 10
 11.6399999999994<Familiar>> 11 7.360000000000058<Familiar>> 12
 3.35000000000218<Known>> 13 8.13000000000102<Familiar>> 14
 8.23999999999796<Familiar>> 15 5.94000000000233<Familiar>> 16
 4.40000000000146<Known>> 17 4.77999999999834<Familiar>> 18
 4.06000000000131<Unknown>> 18 4.06000000000131<Unknown>

6.69 (3.56)

348554

Final Scoring Sheet

Word Scoring Sheet

Record ID #: 600 18686

Rater: F

F	1. plaudern	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
K	2. Schattenwelt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
U	3. gemeinsame	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
F	4. Rätsel	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	5. Fortsetzung	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	6. rascher	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
K	7. unnötig	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
U	8. bereits	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known
F	9. entdecken	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	10. verlobt	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	11. ungewöhnlich	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
K	12. spuckt	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
F	13. Gelegenheit	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	14. verwandelt	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
F	15. vermittelt	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
K	16. Bekannte	<input type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Known 3
F	17. Angebot	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known 1
U	18. begeistert	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Partial	<input type="checkbox"/> Known <u>2.5</u>

APPENDIX E
LIST OF WORDS

List of Instructed Words

Focus Group

1. plaudern
2. Schattenwelt
3. gemeinsame
4. Rätsel
5. Fortsetzung
6. rascher
7. unnötig
8. bereits
9. entdecken
10. verlobt
11. ungewöhnlich
12. spuckt
13. Gelegenheit
14. verwandelt
15. vermittelt
16. Bekannte
17. Angebot
18. begeistert

Non-Focus Group

1. schicken
2. Fernweh
3. Ahnung
4. Wanderlust
5. obwohl
6. einfacher
7. später
8. Dinge
9. Plakat
10. mitmachen
11. Anlage
12. nett
13. kopieren
14. buchen
15. Termin
16. Verkäuferin
17. versprochen
18. braver

BIBLIOGRAPHY

References

- Allen, B. F. H. (1992). The acquisition of second language vocabulary. Iowa: University of Northern Iowa (ERIC Document Reproduction Service No. ED 350 862)
- Anderson, R. C., & Freebody, P. (1981). Vocabulary knowledge. In J. T. Guthrie, (Ed.), Comprehension and teaching: Research reviews (pp. 77-117). Newark: International Reading Association.
- Anderson, R. C., & Freebody, P. (1983). Reading comprehension and the assessment and acquisition of word knowledge. Advances in Reading and Language Research, 2, 231-256.
- Anderson, R. C., & Nagy, W. E. (1991). Word Meanings. In R. Barr, M. L. Kamil, P.B. Mosenthal, & P. D. Pearson (Eds.), Handbook of Reading Research (Vol. 2, pp. 690-724). New York: Longman.
- Anderson, R. C., & Nagy, W. E. (1993). The Vocabulary Conundrum (Technical Report No. 570). Champaign, IL: University of Illinois at Urbana-Champaign, Children's Research Center. (ERIC Document Reproduction Service No. ED 354 489)
- Ausabel, D. P., Novak, J. D., Hanesian, H. (1978). Educational psychology: a cognitive view. New York: Werbel & Peck
- Baker, S. D., Simmons, D. C., & Kameenui, E. J. (1995). Vocabulary acquisition: synthesis of the research (Technical Report No. 13). Eugene, OR: University of Oregon, National Center to Improve the Tools of Educators. (ERIC Document Reproduction Service No. ED 386 860)
- Beck, I., & McKeown M. (1991). Conditions of Vocabulary Acquisition. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.) Handbook of Reading Research. (Vol2, pp. 789-814) New York: Longman
- Bensousson, M., & Laufer, B. (1984). Lexical guessing in context in EFL reading comprehension. Journal of Research in Reading, 7(1), 15-32.
- Bernhardt, E. B. (1991). Reading development in a second language: Theoretical, empirical, and classroom perspectives. Norwood, N.J.: Ablex Publishing Corporation.

Beheydt, L. (1987). The semantization of vocabulary in foreign language learning. System, 15(1), 55-67.

Bialystok, E. & Sharwood-Smith, M. (1985). Interlanguage is not a state of mind: An evaluation of the construct for second-language acquisition. Applied Linguistics, 6, 101-117.

Bialystok, E. (1988). Aspects of linguistic awareness in reading comprehension. Applied Psycholinguistics, 9(2), 123-139.

Blachowicz, C. L. Z. (1987). Vocabulary instruction: what goes on in the classroom. The Reading Teacher, , 132-137.

Bland, S. K., Noblitt, J. S., Armington, S., & Gay, G. (1990). The naive lexical hypothesis: evidence from computer-assisted language learning. The Modern Language Journal, 74(4), 440-450.

Brown, C. (1993). Factors affecting the acquisition of vocabulary: Frequency and saliency of words. In T. Huckin, M. Haynes, & J. Coady (Eds.), Second language reading and vocabulary learning (pp. 263-288). Norwood, N. J.: Ablex Publishing Corporation.

Chall, J. S. (1987). Two vocabularies for reading: Recognition and meaning. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 7-17). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Coady, J. (1993). Research on ESL/EFL vocabulary acquisition: Putting it in context. In T. Huckin, M. Haynes, & J. Coady (Eds.), Second language reading and vocabulary learning (pp. 3-23). Norwood, N. J.: Ablex Publishing Corporation.

Coady, J., Magato, J., Hubbard, P., Graney, J., & Mokhtari, K. (1993). High frequency vocabulary and reading proficiency in ESL readers. In T. Huckin, M. Haynes, & J. Coady (Eds.), Second language reading and vocabulary learning (pp. 217-228). Norwood, N. J.: Ablex Publishing Corporation.

Crist, R. L. (1981). Learning concepts from contexts and definitions: A single subject replication. Journal of Reading Behavior, 13, 271-277.

Crow, J. T. (1986). Receptive vocabulary acquisition for reading comprehension. The Modern Language Journal, 70(3), 242-250.

Curtis, M. E. (1987). Vocabulary testing and vocabulary instruction. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 37-51). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Dale, E. (1965). Vocabulary measurement: Techniques and major findings. Elementary English, 42, 895-901.

Drum, P. A. (1983). Vocabulary knowledge: History. In J. A. Niles & L. A. Harris (Eds.), Searches for meaning in reading/language processing and instruction (pp. 163-171). Rochester, N.Y.: National Reading Conference.

Elshout-Mohr, M. & van Daalen-Kaptein, M. M. (1987). Cognitive processes in learning word meanings. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 53-71). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Gahren, F. M. (1993). A study of the vocabulary acquisition of advanced learners of French in classroom and naturalistic environments. Unpublished doctoral dissertation, The Ohio State University, Columbus.

Gass, S. M. (1988). Second language vocabulary acquisition. Annual Review of Applied Linguistics, 9, 92-106.

Gauthier, L. R. (1991). The effects of vocabulary gain upon instructional reading level. Reading Improvement, , 195-202.

Gipe, J. (1978). Investigating techniques for teaching word meanings. Reading Research Quarterly, 4, 624-644.

Graves, M. F. (1986). Vocabulary learning and instruction. In Review of Research in Education: Vol 13 (pp. 49-89). Washington, DC: American Educational Research Association.

Graves, M. F., & Prenn, M. C. (1986). Costs and benefits of various methods of teaching vocabulary. Journal of Reading, 29, 596-602.

Graves, M. F. (1987). The roles of instruction in fostering vocabulary development. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 7-17). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Hague, S. A. (1987). Vocabulary instruction: What L2 can learn from L1. Foreign Language Annals, 20 (3), 217-225.

Hall, C. J. (1992). Making the right connections: vocabulary learning and the mental lexicon. Puebla, Mexico: Universidad de las Americas, Language Department and Institute of Advanced Studies. (ERIC Document Reproduction Service No. ED 363 128)

Hatch, E., & Brown, C. (1995). Vocabulary, semantics, and language education. Cambridge: Cambridge University Press.

Haynes, M. (1993). Patterns and perils of guessing in second language reading. In T. Huckin, M. Haynes, & J. Coady (Eds.), Second language reading and vocabulary learning (pp. 46-66). Norwood, N. J.: Ablex Publishing Corporation.

Heinz, P. J. (1993). Towards enhanced, authentic second language reading comprehension assessment, research, and theory building: The development and analysis of an automated recall protocol scoring system. Unpublished doctoral dissertation, The Ohio State University, Columbus.

Henning, G. H. (1975). Measuring foreign language reading comprehension. Language Learning, 25, 109-114.

Herman, P. A., Anderson, R. C., Pearson, P. D., & Nagy, W. E. (1987). Incidental acquisition of word meaning from expositions with varied text features. Reading Research Quarterly, 22(3), 263-284.

Huckin, T., Haynes, M., & Coady, J. (Eds.). (1993). Second language reading and vocabulary learning. Norwood, N. J.: Ablex Publishing Corporation.

Hulstijn, J. H. (1993). When do foreign-language readers look up the meaning of unfamiliar words? The influence of task and learner variables. The Modern Language Journal, 77(2), 139-147.

Jenkins, J. R., & Dixon, R. (1983). Vocabulary learning. Contemporary Educational Psychology, 8, 237-260.

Jenkins, J. R., Stein, M. L., & Wysocki K. (1984). Learning vocabulary through reading. American Educational Research Journal, 21(4), 767-787.

Jenkins, J. R., Matlock, B., & Slocum, T. A. (1989). Two approaches to vocabulary instruction: the teaching of individual word meanings and practice in deriving word meaning from context. Reading Research Quarterly, 24(2), 215-235.

Johnson, D., & Steele V. (1996). So many words, so little time: helping college ESL learners acquire vocabulary building strategies. Journal of Adolescent and Adult Literacy, 39(5), 348-357.

Kameenui, E. J., Carnine, D. W., Freschi, R. (1982). Effects of text construction and instructional procedures for teaching word meanings on comprehension and recall. Reading Research Quarterly, 17(3), 367-388.

Kameenui, E. J., Dixon, R. C., & Carnine, D. W. (1987). Issues in the design of vocabulary instruction. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 7-17). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Kelly, P. (1990). Guessing: No substitute for systematic learning of lexis. System, 18 (2), 199-207.

Koda, K. (1989). The effects of transferred vocabulary knowledge on the development of L2 reading proficiency. Foreign Language Annals, 22(6), 529-540.

Knight, S. M. (1992). The effect of the presence or absence of dictionary access on incidental vocabulary learning for college intermediate Spanish learners reading Spanish texts. Unpublished doctoral dissertation, The Ohio State University, Columbus.

Knight, S. M. (1994). Dictionary use while reading: the effects on comprehension and vocabulary acquisition for students of different verbal abilities. The Modern Language Journal, 78(3), 285-298.

Larsen-Freeman, D., & Long M. (1991). An introduction to second language acquisition research. New York: Longman.

Laufer, B. (1987). Teaching vocabulary: The lexical perspective of reading comprehension. English Teaching Journal, 58-70.

Laufer, B. (1990). Ease and difficulty in vocabulary learning: Some teaching implications. Foreign Language Annals, 23(2), 147-155.

Lupescu, S., & Day, R. R. (1993). Reading, dictionaries, and vocabulary learning. Language Learning, 43 (2), 263-287.

McDaniel, M. A. & Tillman, V. P. (1987). Discovering a meaning versus applying the keyword method: Effects on recall. Contemporary Educational Psychology, 12, 156-175.

McKeown, M. G., Beck, I. L., Omanson, R. C., & Pople, M. T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge and use of words. Reading Research Quarterly, 20 (4), 522-535.

McKeown, M. G., Beck, I. L., Omanson, R. C., & Perfetti, C. A. (1983). The effects of long-term vocabulary instruction on reading comprehension: A replication. Journal of Reading Behavior, 15 (1), 3-18.

McKeown, M. G., & Curtis, M. E. (Eds.). (1987). The nature of vocabulary acquisition. Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

McKeown, M. G. (1993). Creating effective definitions for young word learners. Reading Research Quarterly, 28(1), 17-31.

Meara, P. (1980). Vocabulary acquisition: A neglected aspect of language learning. Language Teaching & Linguistics: Abstracts, 13(4), 221-246.

Mezynski, K. (1983). Issues concerning the acquisition of knowledge: Effects of vocabulary training on reading comprehension. Review of Educational Research, 53(2), 293-323.

Nagy, W. E., Herman, P. A., & Anderson, R. C. (1985). Learning words from context. Reading Research Quarterly, 20(2), 233-253.

Nagy, W. E. & Herman, P. A. (1987). Breadth and depth of vocabulary knowledge: Implications for acquisition and instruction. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 19-35). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Nagy, W. E. (1988). Teaching vocabulary to improve reading. International Reading Association, Newark, DE: National Council of Teachers of English. (ERIC Document Reproduction Service No. ED 298471)

Nation, I. S. P. (1982). Beginning to learn foreign vocabulary: A review of the research. RELJ Journal, 13(1), 14-36.

Nation, I. S. P. (1990). Teaching and learning vocabulary. New York: Newbury House.

Nation, I. S. P., & Kyongho, H. (1995). Where would general service vocabulary stop and special purposes vocabulary begin? System, 23(1), 35-41.

Nist, S. L., & Olejnik, S. (1995). The role and context of dictionary definitions on varying levels of word knowledge. Reading Research Quarterly, 30(2), 172-190.

O'Malley, J. M., Chamot, A. U., & Walker C. (1987). Some applications of cognitive theory to second language acquisition. Studies in Second Language Acquisition, 9, 287-306.

Palmberg, R. (1987). Patterns of vocabulary development in foreign language learners. Studies in Second Language Acquisition, 9, 201-220.

Pimsleur, P. (1967). A memory schedule. The Modern Language Journal, 51(2), 73-75.

Pressley, M., Levin J. R., & McDaniel, M. A. (1987). Remembering versus inferring what a word means: Mnemonic and contextual approaches. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 107-127). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Robinson, P. (1993). Procedural and declarative knowledge in vocabulary learning: Communication and the language learners' lexicon. In T. Huckin, M. Haynes, & J. Coady (Eds.), Second language reading and vocabulary learning (pp. 229-262). Norwood, N. J.: Ablex Publishing Corporation.

Read, J. (1987, August). Towards a Deeper Assessment of Vocabulary Knowledge. Paper presented at the 8th World Congress of Applied Linguistics, Sydney, Australia. (ERIC Document Reproduction Service No. ED 301 048)

Reinking, D., & Rickman, S. S. (1990). The effects of computer-mediated texts on the vocabulary learning and comprehension of intermediate-grade readers. Journal of Reading Behavior, 22(4), 395-408.

Sanaoui, R. (1995). Adult learners' approaches to learning vocabulary in second languages. The Modern Language Journal, 79, 15-28.

Schatz, E. K., & Bladwin, R. S. (1986). Context clues are unreliable predictors of word meanings. Reading Research Quarterly, 21(4), 439-453.

Shore, W. J., & Durso, F. T. (1990). Partial knowledge in vocabulary acquisition: general constraints and specific detail. Journal of Educational Psychology, 82(2), 315-318.

Stahl, S. A. (1983). Differential word knowledge and reading comprehension. Journal of Reading Behavior, 15(4), 33-50.

Stahl, S. A. (1986). Three principles of effective vocabulary instruction. Journal of Reading, 29, 105-111.

Stahl, S. A. & Fairbanks, M. M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. Review of Educational Research, 56 (1), 72-110.

Stahl, S. A., Jacobson, M. G., Davis, C. E., & Davis, R. L. (1989). Prior knowledge and difficult vocabulary in the comprehension of unfamiliar text. Reading Research Quarterly, 24(1), 27-43.

Stein, M. (1993). The healthy inadequacy of contextual definition. In T. Huckin, M. Haynes, & J. Coady (Eds.), Second language reading and vocabulary learning (pp. 203-216). Norwood, N. J.: Ablex Publishing Corporation.

Sternberg, R. J. (1987). Most vocabulary is learned from context. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 89-105). Hillsdale, N. J.: Lawrence Erlbaum Associates, Publishers.

Stoller, F. & Grabe, W. (1993). Implications for L2 vocabulary acquisition and instruction from L1 vocabulary research. In T. Huckin, M. Haynes, & J. Coady (Eds.), Second language reading and vocabulary learning (pp. 24-45). Norwood, N. J.: Ablex Publishing Corporation.

Thelen, J. N. (1986). Vocabulary instruction and meaningful learning. Journal of Reading, 29,

van Daalen-Kapteijns, M. M., & Elshout-Mohr, M. (1981). The acquisition of word meaning as a cognitive learning process. Journal of Verbal Behavior, 20, 386-389.

Wheatley, E. A., Muller, D. H., & Miller, R. B. (1993).
Computer-assisted vocabulary instruction. Journal of Reading, 37(2),
92-102.